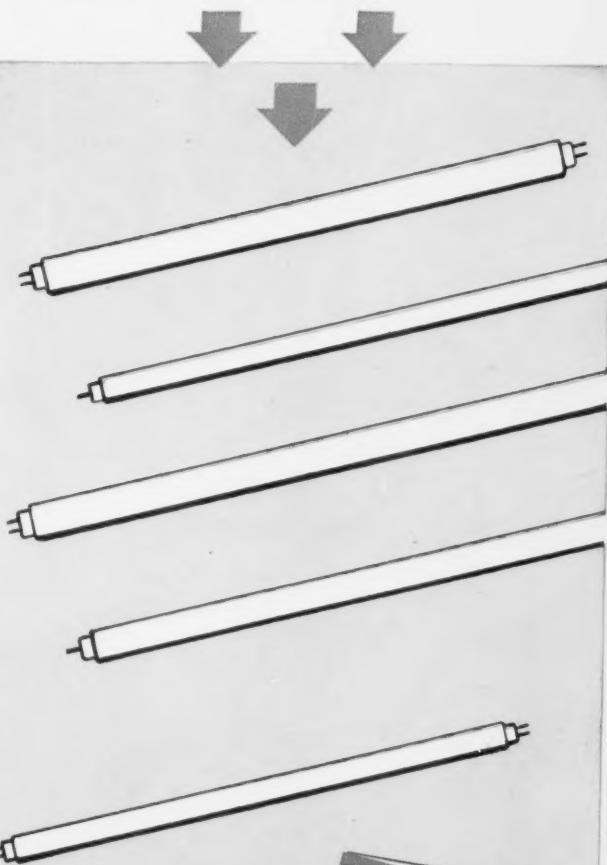


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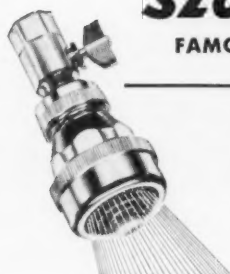
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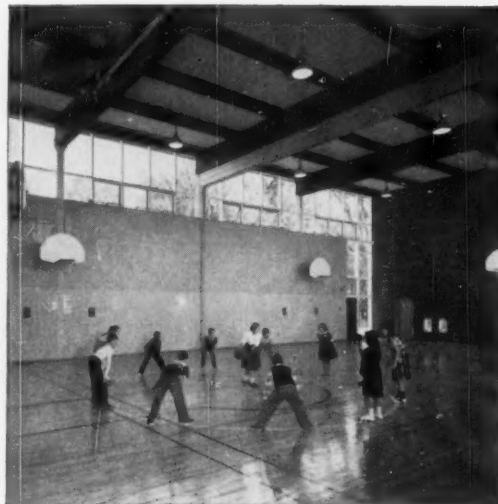
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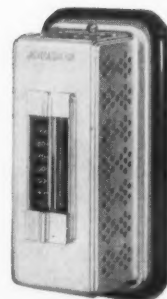


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THE NATION'S SCHOOLS

THE MAGAZINE OF BETTER SCHOOL ADMINISTRATION

MAY 1956

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AMONG THE AUTHORS



Worth McClure

From a ring full, collected during 47 years in education, WORTH MCCLURE selects seven keys to school leadership to pass on to his colleagues (p. 47). Dr. McClure, who will retire in July, has served as executive secretary of the American Association of School Administrators since 1946. Until his senior year in college, Dr. McClure relates, "the only certainty in my vocational picture was that I would not become a teacher." After his change of heart, Dr. McClure not only taught but held administrative positions in Washington and Missouri before joining the A.A.S.A.

Who gives the answers to legal questions that arise in your school system? A number of school districts in Michigan retain the services of a school attorney, according to a survey reported by WINSTON L. ROESCH (p. 58). Dr. Roesch is assistant professor of education at the University of Michigan, teaching courses in secondary and general school administration for the university's extension service in western and central Michigan. He has also served as assistant educationist for the navy department's bureau of personnel.

Problems of teacher supply and demand are an old story to RAY C. MAUL, who has been directing national studies on this subject for the National Education Association since 1947. However, he reports some new and encouraging trends on page 51. Dr. Maul is a research associate of the Commission on Teacher Education and Professional Standards of the National Education Association and editor of the *Journal of Teacher Education*, quarterly professional magazine of the commission. Before joining the commission staff, he was dean of State Teachers College, Emporia, Kan. While in Kansas, as a member of the commission on research and service of the North Central Association of Colleges and Secondary Schools, he developed for the association an annual 20 state investigation of teacher supply and demand. From this inquiry, the nationwide survey was developed in 1948.

For example, take a doorknob! FRANCIS G. CORNELL does, and he seems to have an effective hold on it (p. 79). Since 1932, Dr. Cornell has specialized in the fields of research and science, and he is now associated with an educational consulting firm in New York. A professor of

education at the University of Illinois from 1947 to 1955, Dr. Cornell was also director of the bureau of educational research there. Before going to Illinois, he was chief of research and statistical service for the U.S. Office of Education for seven years.

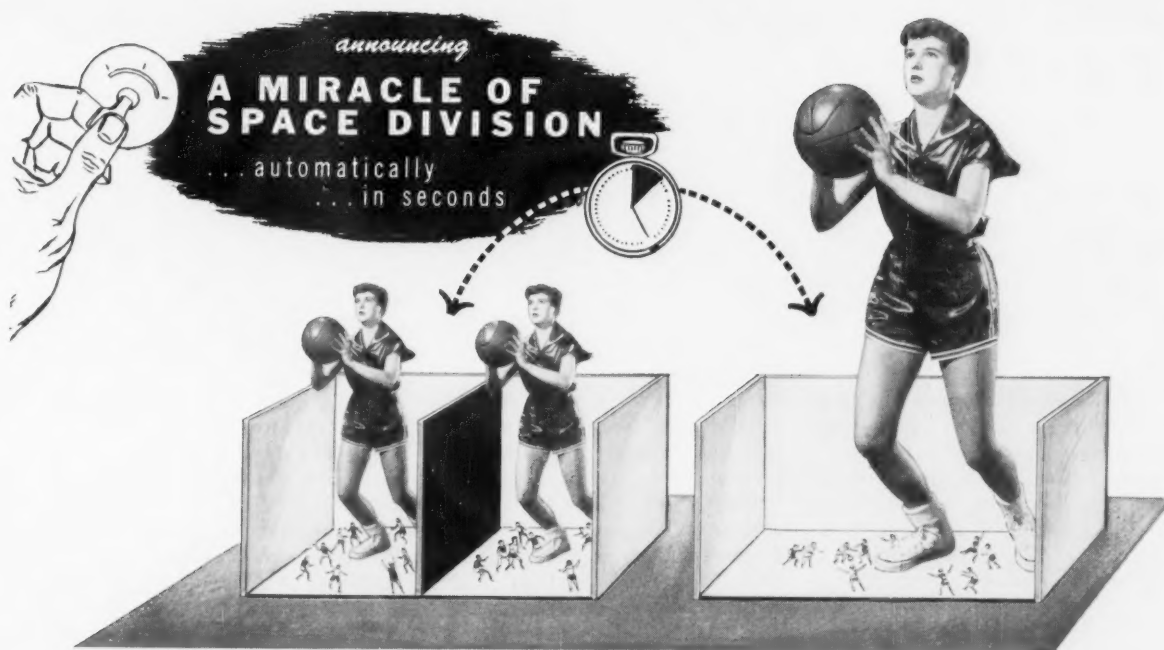
"Even one accident is too much." Sparked by this belief, Los Angeles city school system has carried on extensive research on safe playground surfacing. The story of the investigation, as told by LAWRENCE E. HOUSTON to WILLIAM C. RIVERA, reveals some useful facts (p. 108). A graduate of Los Angeles city schools, Mr. Houston has served successively as physical education teacher, supervisor of athletics for senior high schools, and director of physical education, safety and youth services branch, in that system. Mr. Rivera is currently assistant public information supervisor for Los Angeles city schools. He has also held the positions of news bureau director for Los Angeles City College and director of publicity for the Hollywood Baseball Association, "Hollywood Stars," in Los Angeles.

Things aren't always what they seem; on page 54, DOUGLAS S. WARD spells out the differences he sees between public opinion in Virginia and recent legislative action there concerning school integration. Dr. Ward is acting dean and professor of education in the school of education of the University of Virginia. His interest in fostering understanding between peoples is reflected in his professional experience, which includes appointments as specialist in Latin American materials for the U.S. Office of Education, principal of the American School at Quito, Ecuador, and special representative with the education division of the Institute of Inter-American Affairs at Guatemala City. Prior to his appointment at the University of Virginia, Dr. Ward was a member of the faculty of the school of education at the University of Illinois.



Douglas S. Ward

In an interview, NORMAN K. ERICKSON gives his impressions of the Denver convention of the Department of Elementary School Principals (p. 83). This is Mr. Erickson's first year as principal of South School, Glencoe, Ill. He had taught seventh and eighth grade social studies and English at Glencoe from 1950 to 1955. Before that he was a social studies and athletics teacher in the high school at Parkston, S.D. His B.A. came from Augustana College, Sioux Falls, S.D., and his M.A. from Michigan State College.



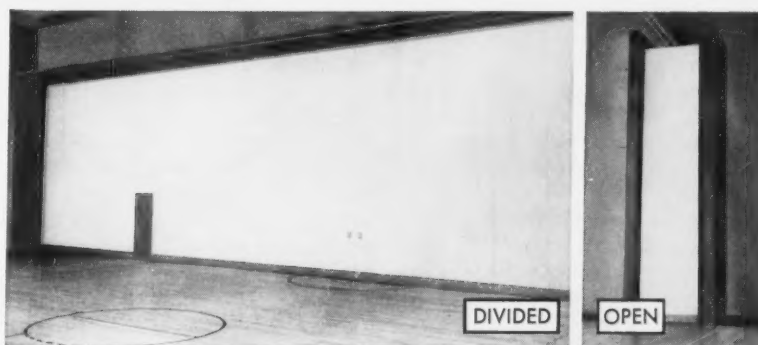
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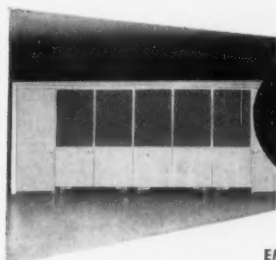
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Plan that vacation now! . . . In a rut? . . . Better than they think . . . Discipline needed . . . Ready for kindergarten?

By CALVIN GRIEDER, professor of school administration, University of Colorado

Plan that vacation now. In carrying on rather extensive correspondence with superintendents in many states, I have been astonished at the number who apparently think they are too indispensable to take time off for a vacation. (None would actually put it into these words, of course.)

No one thanks a man who has worked hard at his job for not taking a short respite from it. A change of scene and a change of pace are necessary periodic refreshment. One ought to get far enough away from the job so that he's beyond reach of telephones, mail and importunate callers except in genuine emergencies.

It is peculiarly unfitting for an administrator so to order his work and life that he can't get off. Some organizations, such as banks, get suspicious of a man who can never leave his job. I think that school boards ought to be wary, too, of the superintendent who can't arrange his work and delegate his duties for a short time to trusted associates, so that he can relax and rest before having another hard go at administering schools.

When is a child ready for kindergarten? The approach of summer also brings to mind the "summer round-up" of children for admission to kindergarten next September. Most school systems still rely solely on chronological age for kindergarten enrollment. A child is expected to be 5 on or before September 30, October 31, or some other specified date.

Probably if one measure of readiness for kindergarten is used, age is as good as any other. However, so much is known about child growth and development that it is hardly defensible to rely on this rough measure alone. Some school systems have worked out a plan that includes other items.

For example, the standard or normal age of admission may be conser-

vatively set as 5 years on or before September 30. Provision is made for individual evaluation of children who attain that age after September 30 and before December 1, if their parents request it and agree to abide by the recommendations of the evaluators.

In the evaluation, mental ability, muscular control, and reactions to other children are considered.

Some such plan adapted to local conditions might well be taken as a project for study by a joint committee of parents and primary teachers.

But we're in a rut! Wouldn't a lot of people—especially teachers—be bowled over if school boards and administrators would step out in front when dealing with certain problems instead of having to be pushed?

Considering the margin of luxury that this country possesses, we could raise the average teacher's salary by two or three thousand without really hurting anybody. Of course, no superintendent or board is going to go *that* far—the rule seems to be to go just far enough to take the heat off. Teachers are partly at fault, too, because they never seem to be satisfied, but in general they've never got to the point where they could be satisfied.

Well, the same idea holds for other phases of school work: curriculum improvement, activities, community relations, plant and so on. We say that the decentralized pattern of U.S. education allows for diversity, try-outs, experimentation, but we're in a rut mostly. Too many boards and administrators conceive of their job mainly as sitting on the lid. It's far more interesting to live imaginatively and adventurously—even dangerously!

Stern discipline would help. I happen to be a university professor who is lucky enough to have the opportunity of visiting many schools and

working with school boards too. Among my campus duties is working with a large group of juniors in a course on the American school system. "Discipline" is a topic that invariably concerns them, although major consideration is reserved for their methods courses.

From my vantage point, discipline (especially in high schools) looks like the chief factor of stress and strain in teaching. In contrast to this, it is of almost no importance in university teaching—one big reason there is less tension in university work.

I have the right, seldom used, to dismiss a student from my class if he does not tend to business, and he stays out if I say so. A high school teacher may send a pupil out, but next day he's back. I do not think we've impressed on our teen-agers the fact that they have obligations and responsibilities as well as the American birth-right of high school opportunities. We have become too soft in attempting to keep boys and girls in school, though the objectives are laudable.

Compulsory attendance laws in most states do not apply to high school. Even where they do, no school is compelled to keep a pupil who is a detriment to the work of the school. I do not want to give the impression that I am oversimplifying the problem; reforms in curriculum and methods and improvements in guidance are also needed.

However, a great load would be taken off teachers and principals if a sterner administration of discipline were invoked. Let us teach those who want to be taught and quit coddling the rest.

Better than they think. As the school year draws to a close, teachers at all levels are likely to feel some discouragement about their effectiveness. A colleague and I, after several heavy thinking sessions, concluded that teachers are more effective than they think they are.

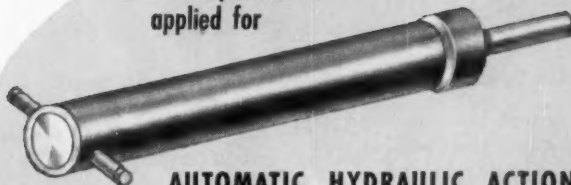
We have also boiled down the reasons for ineffectiveness to these three: (1) The teacher is not well enough prepared to teach what he is assigned to teach; (2) the teacher does not believe that what he's teaching is important, and (3) the teacher assumes that the learners are ready for his teaching. Teachers do not grasp the differences between the world they see and live in and think about and the world of their pupils.

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QUESTIONS AND ANSWERS

Transporting Spectators

Should school buses be used to transport spectators as well as participants to athletic contests?

For students in the same school, bus transportation not only will encourage student participation but will give the entire student body the feeling of

"belonging." In sports, there are always the cheering section and the band and the pep squad in the stadium to encourage the teams. Further encouragement is provided by the student body. Of course, improper supervision of such a group can result in destruction of the bus, especially if the home team wins the event. New Orleans

public schools have followed the policy of requiring one teacher for each 25 students. This also relieves the driver of the problem of discipline.

Students of other schools can also be accommodated without too much difficulty, provided the school principal and the transportation department coordinate the operation. Particular attention should be given to loading and unloading areas at the stadium (1) to facilitate arrival and departure from the school and stadium, and (2) to prevent school groups from becoming confused and mixed. Requiring each student to return on the same bus that carried him to the stadium helps eliminate some of the confusion. Buses then will not need to stop at more than one school. The issuance of small slips with the bus number when students get on the bus works well.

Parents and other adults should be transported only if, in the opinion of the principals of the schools involved, this service would result in harmonious and constructive feelings between parent and school, school and parent, and most of all between parent and parent. To accomplish this, the entire operation should be closely supervised by the school principal, working through committees perhaps. The presence of the principal must be evident in all sections of the operations to ease over the minor irregularities that will necessarily happen.

All of these observations have all been made on the assumption that enough buses would be available for this "spectator" use without conflicting with the primary use of the school bus—transporting children to and from school.

Assuming a decision has been reached to offer spectator transportation, what about the cost and what are the costs? Depreciation, insurance, drivers' salaries, supervision, gas, oil, tires must all be considered. The first two, depreciation and insurance, remain the same regardless of the amount the buses are used.

The New Orleans public schools solved the cost problem by requiring the school to pay the drivers' salaries, on a reimbursement basis to the school board. The balance of the expense is borne by the school board itself.

It is felt that the publicity and other benefits derived from using the buses greatly outweigh the small amount of gas, oil and paper work involved.—JOSEPH B. DUTEIL Jr., transportation manager, public schools, New Orleans.

5 ROWLES CHALKBOARDS

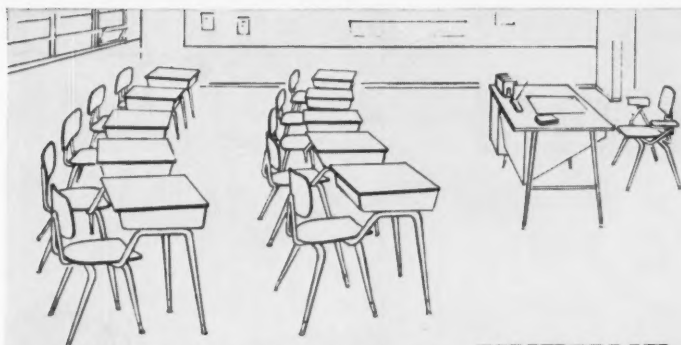
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 To a very well known bird,
 Presented by the Sponsors
 Of the Always Open Door—
 A product of which not one soul
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It's the only door existent
 That has no lock or latch—
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 In cheap publicity.
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 A racket through and through,
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 Why don't you do it, too,
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 And should be out a-courting of
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Well, we can show you how to get
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ROVING REPORTER

Students Step In and Solve Their Community's Problem • Games

Help Pupils Learn Spanish • Elementary School Teaches Skiing

DRAINAGE WAS THE PROBLEM at Ocracoke, N.C., especially after the hurricanes. Ditches were stopped up, refuse had been blown in, sand had washed in, vegetation had fallen in, and trenches had been erased. Pooled water made gardening impossible in many parts of town; there was a problem of health as well as of convenience and comfort.

Since the town is not incorporated, concerted community action is hard to achieve. The local (men's) Civic Club had all but given up on drainage. Then Theodore R. Rondthaler, principal of the local three-teacher high school, got an air photo, enormously enlarged, taken by the Coast and Geodetic Survey. When he spread it out on a table at school, he soon learned that those who really know the ditches are not the men but the boys who hunt, play, explore and float their skiffs in and on the ditches.

At the next Civic Club meeting Mr. Rondthaler moved that three school boys, a senior, a junior, and a freshman, be officially added to the local drainage committee, with power to lay out and personally direct the work of the machine employed to dig. The club voted in favor of the motion.

So did the other townspeople—by their favorable comments—after work had actually started. When the principal supposed that they had gone as far as they could and the boys' labors were finished, the ditching operator appeared at the school at 9:30 one morning.

"Mr. Rondthaler," he said, "I'd like to make one more try and see if we can't get general agreement on that long ditch—you know the one we gave up, that runs the whole length back of the town. I believe if you could let me have one of the boys to go from house to house, seeing each and every property owner, maybe we could work it out."

The principal agreed to let the ninth grader, well acquainted along that route, try. The ditching operator asked for "the tall boy, too. You know he

can talk to people, that boy can, much better than I can, and he has a way with him."

Apparently both boys had a way with them because by mid-afternoon they were back to report success—agreement by all those who own property along the ditch.

SKIING IS PART of the physical education program of the elementary school at Big Bear Lake, Calif. It's a sport that can be taught during the winter when the school, lacking a gymnasium, can't provide for indoor activities.

The skiing program has become a real community project, with the Ski Tow Operators Association, ski instructors, the Big Bear Lake Winter Club, the chamber of commerce, and parents all cooperating with the school.

Instructors and transportation to and from ski classes are provided by the school, which also has a limited amount of equipment it lends to chil-



dren who could not otherwise participate in the program.

Children begin with dry land lessons at school. Instructors check equipment for safety, give conditioning exercises, and provide instruction in basic ski maneuvers.

Pupils of like ability and maturity ski together. First to fifth graders have

classes on Mondays; sixth to eighth graders on Tuesdays, and children with special abilities or experience on Wednesdays. On Thursdays ski playdays or competitions keyed to the skill of the children are arranged.

The skiing program is described in the March issue of the *CTA Journal* by Wayne Dean, third grade teacher and director of the ski program at Big Bear Lake.

PUPILS AT Shore Junior High School, Euclid, Ohio, play games in their Spanish class.

It's no breach of discipline though because all the games are word games, and the words are Spanish.

Boys in the class are divided into four groups of equal ability; their names are put on lists. The same is done with the girls. Then a list of girls and one of boys is combined to make a team, whose members choose a captain. The lists are interchanged each week.

A variety of games has been devised for the weekly contest day:

The teacher reads twice, in Spanish, statements that can be completed by short answers. Team members put their heads together; they may use dictionaries or vocabulary cards. A secretary, appointed by the team captain, writes down the answers.

From clues written in Spanish team members (usually two to a clue as the first team to find the correct answer wins) identify a person or a place.

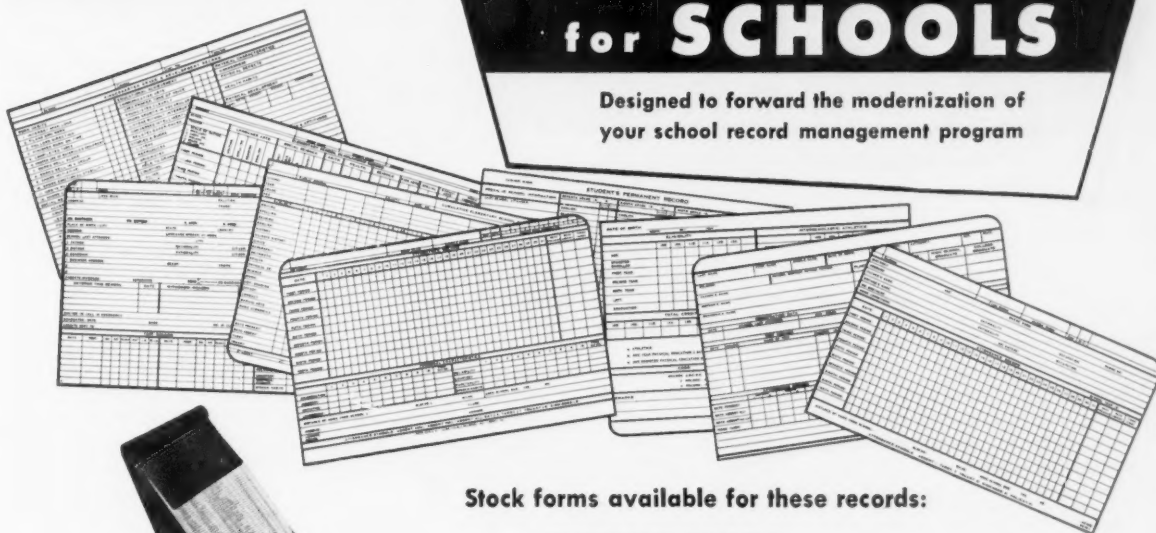
Simple crossword puzzles in Spanish are worked. Clues are given in Spanish, and sometimes a few letters are supplied. It is, says Teacher George Furse, surprisingly simple to make up such a puzzle when a student dictionary is used.

Probably the most popular—and noisiest—of the contests involves following humorous directions written in Spanish, such as: "A boy and a girl from your team must pretend they are cats fighting." "A member must make a pretty paper hat and put it on the teacher's head."

ACME VISIBLE

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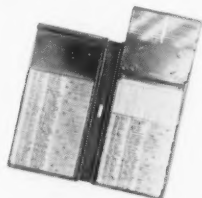
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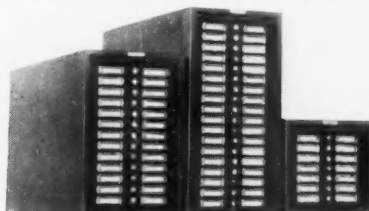
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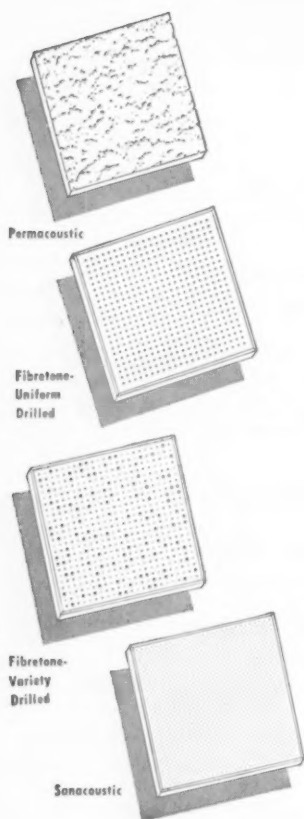
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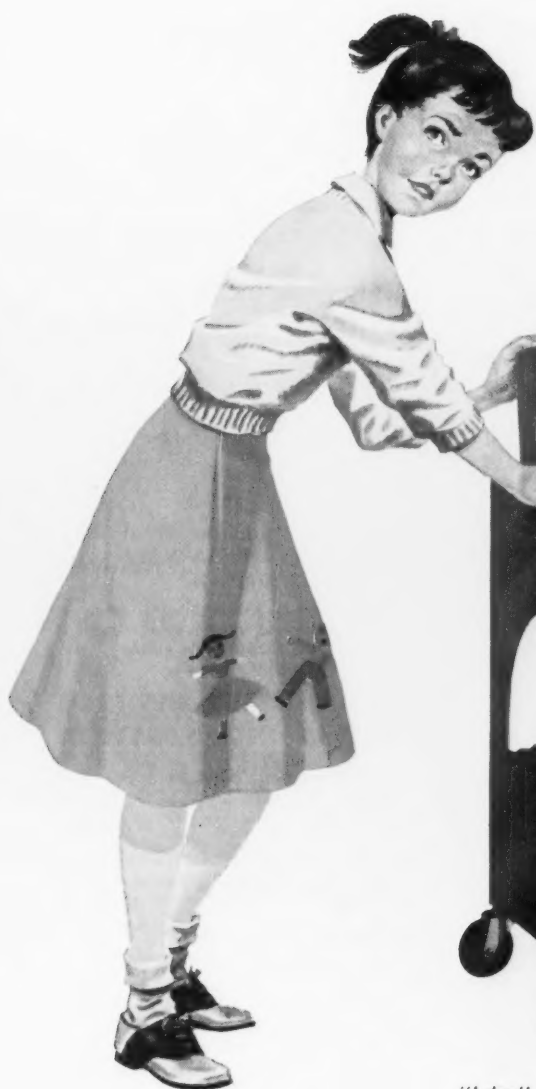


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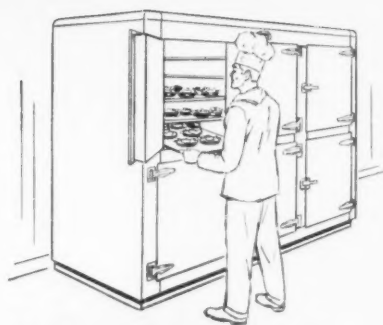


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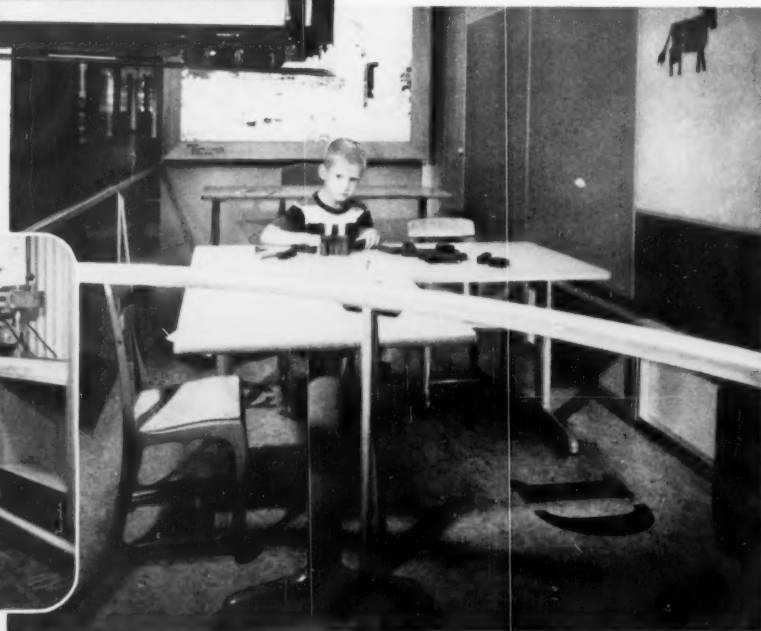
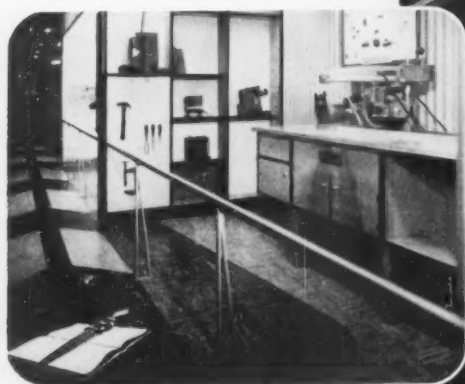
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Teachers know that students seated near the back of the room, away from the window, may lack the fresh, wholesome air they need to stay alert, attentive. That's because ordinary heating-ventilating systems leave sleepy corners and stale air spots . . . make some seats drafty and cold, others hot and stuffy.

TRANE Unit Ventilators blend and distribute fresh, tempered air gently—evenly—to every corner of the classroom, *every*

minute of the day. Every pupil in the room has a fresh air seat—all day long! Only TRANE Unit Ventilators have exclusive *Kinetic Barrier Action* that provides *powered ventilation* across the entire length of outside wall or window.

Ask your architect, contractor or consulting engineer about TRANE Unit Ventilators for your school. Have him contact his nearby TRANE Sales Office—or write TRANE, La Crosse, Wis.



Here's how **Kinetic Barrier Action** gives even, room-wide warmth and ventilation. Air—warm or cool, as called for by the room thermostat—is delivered under pressure from *wall to wall extensions*. As it reaches the ceiling, it picks up room air—creates a gentle, circling flow of ventilation across the entire room. Result: heating and ventilating are uniform. No hot spots, cold spots, stale air pockets anywhere—anytime! Every pupil in the room has an ideal climate for learning!

The smoke test (right) shows how TRANE Unit Ventilators are solving the window downdraft problem with *positive* protection that stops drafts *before they start*. Chilled air from icy window panes is stopped by an upward rising column of tempered air across the entire window. Unlike systems that depend upon wall-length heating elements, the TRANE *Kinetic Barrier Action* stops window drafts *full-time*—even when the thermostat has shut off the room heat.



every pupil in the room...
no stale air spots ... no drafts!



In locker rooms, gyms, auditoriums, TRANE *Volume Ventilators* ventilate and heat. For entryways, *Force-Flo Heaters* stop cold drafts. Heat large open areas with TRANE *Unit Heaters*.

For halls, stairways, windows, use TRANE *Connectors*. In shops, pools, TRANE *Wall-Fin* heats on a budget. For offices, *Uni-Trane* units heat, cool, ventilate. TRANE *Steam Specialties* save fuel.

For heating, cooling, ventilating...
For any air condition, turn to

TRANE

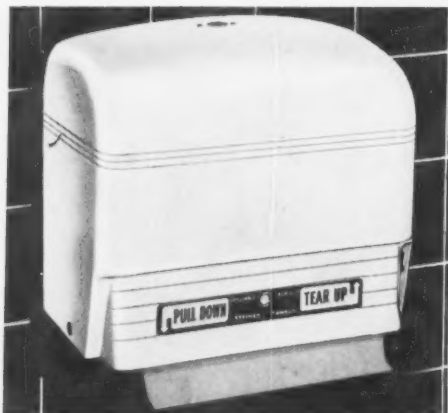
MANUFACTURING ENGINEERS

THE TRANE COMPANY, LA CROSSE, WIS. • EASTERN MFG. DIV., SCRANTON, PA.
TRANE COMPANY OF CANADA, LTD., TORONTO • 90 U.S. AND 19 CANADIAN OFFICES

Steiner

PUTS ORDER IN THE WASHROOM

With automatic timing for towels



it's easy as A, B, C!

Just pull the towel down and tear up. After a few seconds a new towel appears *automatically*. Like an automatic school teacher passing out 1 towel at a time at the speed you choose. School can have absolute control of the usage by adjusting the time stop to its own need.

it's a money saver!

Eliminates waste without restricting use. Automatic timing saves you 30% to 40% on paper towel costs. (Only $\frac{1}{3}$ case of 8000 Steiner Towels will do the job of a full case of 3750 interfolded towels.)

and the cabinet costs you nothing!

It's yours as long as you continue to use Steiner Paper Towels. We maintain the cabinet and keep it in perfect working order without charge.



With STEINER toilet tissue
here's how it works!

extra roll, always on hand!

When the lower roll of tissue is exhausted, the user simply tears off old core and the new roll drops into position for immediate use. Viewing slots tell janitor when spare roll is used. The first roll-tissue dispenser that can be re-loaded before empty.

optional patented pressure plate!

Eliminates waste without restricting use.

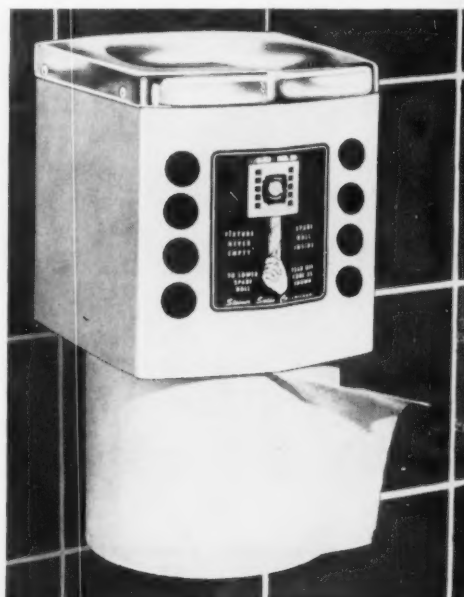
it's a snap to maintain!

The secret is the second roll which the user services himself. Once the Steiner tissue dispenser is loaded it will contain enough tissue for 24 to 48 hours without checking.

two qualities available!

XTRA-SERV tissue, 1500 sheets per roll—total loading 3000

EVER-SERV tissue, 2000 sheets per roll—total loading 4000



Steiner also designs Recessed Cabinets for installation in the washroom wall!

Steiner Recessed Fixtures enable you to use the cabinet with automatic timing.

PAPER JOBBERS—STEINER CO., INC.

PAPER TOWELS

*TOILET TISSUE

ALABAMA
Birmingham—Clean Linen Service
Montgomery—Capital Linen Supply Co.
Opelika—Dorcas Products

ARIZONA
Phoenix—American Linen Supply Co.
Arizona Janitor Supply Co.
Phoenix Linen & Towel Supply
Prescott—American Laundry & Linen Supply

ARKANSAS
Clarksville—Arkansas River Valley Linen Service
Little Rock—Carl Finch Janitor Supply Co.
Fayetteville—Lafayette Linen Supply Co.

CALIFORNIA
Anaheim—Boss Overall & Linen Supply
Bakersfield—Valley Office & School Equip. Co.
Oroville—Sanitation Serv.
Burbank—Valley Paper & Chemical Co.
Eureka—Robinson Supply Co.
Fresno—Fresno Towel Supply Co.
San Joaquin—Paper & Janitor Supply Co.
Hanford—Valley Soap & Chemical Co.
Long Beach—American Linen Supply Co.
Industrial Uniform Rental
Long Beach Janitor Supply Co.
Los Angeles—American Linen Supply Co.
American Paper Towel Co.
Calif. Towel Supply Co.
Coast Distributing Co.
Community Towel & Linen Supply
Easterday Supply Co.
Frick Paper Products Co.
Kleen Towel Service Co.
National Sanitary Supply Co.
Prudential Overall Supply
Reliable Linen Supply
Royal Chemical & Disinfect. Co.
Southern Calif. Distributing Co.
Table Linen Supply Co.
Welch's Overall Cleaning Co.
Wilson Paper Co.

Oakland—Oakland Calif. Towel Supply
Pasadena—Pasadena Towel & Linen Supply
Royal Laundry & Dry Cleaning
Sacramento—Exterior Supply Co., Inc.
Red Star Industrial Service
San Diego—Adelphi Supply Co.
American Linen Supply
American Overall Supply
Gates Towel & Linen Supply
Kelley Linen Supply
Morrison of San Diego D.B.A. Calif. Lin. Sply.
San Diego Janitor Sply. & Chem. Co.
San Francisco—Arms Towel Supply Co.
Calif. General Linen Sply.
Easterday Janitor Supply Co.
Peavision Linen Exchange
San Jose—Exchange Linen Service Co.
Red Star Industrial Service
Stockton—National Towel Supply Co.
Vallejo—A.B.C. Towel & Linen Supply Co.
Van Nuys—Williams Brush Co.
Ventura—House Paper Co.

COLORADO
Colorado Springs—Gem Towel & Linen Supply Co.

FOUNDER—Central Indiana Towel Supply
Indianapolis—American Linen Supply Co.
Con'l. Towel & Uniform Co.
Indianapolis Cup & Spec. Co.
Robert L. Zimmermann
LaFayette—Lafayette Linen Supply Co.
South Bend—Quinn's Specialty Service

IOWA
Des Moines—Clean Towel Service
Iowa City—New Process Linen Service
Sioux City—Midwest Paper & Specialty

KANSAS
Emporia—New Process Laundry & Cleaning Co.
Fort Scott—Campbell Laundry & Cleaning Co.
Topeka—Peacock Laundry & Dry Cleaners
Wichita—Atlas Towel & Linen Service
Wichita—Kleen System

KENTUCKY
Lexington—Kentucky Chemical & Supply Co.
Clean Towel Service
Louisville—Louisville Cup & Specialty Co. (Clark Prods.)
Shaulding Ldry. & Dry Cleaners
Woolery Co.

LOUISIANA
Acadian Rouge—Red Stick Linen Supply
Lake Charles—Lakeside Laundry
Monroe—Roland Brown Supply Co.
New Orleans—American Chemical Co.
City Linen Supply Inc.
New Orleans Laundry, Inc.
Steiner Co., Inc.
Shreveport—American Linen Service, Inc.
Clean Linen Service, Inc.
Riedel Towel Supply Co.
Wallace Paper Co.

MARYLAND
Baltimore—Baltimore Towel Sup. & Ldry. Co.
Bulge Coat, Apron & Linen Serv. Inc.
Monumental Paper Co.

MASSACHUSETTS
Boston—Banner Towel Systems
General Linen Service
Gleason Towel Supply
Union Garment Towel Supply
Harvey C. Wheeler
Henry S. Wolcott Co.
Cambridge—Gordon Supply Co.
Union Garment & Towel Supply Co.
Lowell—Hitchcock Towel Supply Co.
Lowell Laundry
Worcester's New England Ldry. Inc.
Newton—Reliance Linen Service
Springfield—Central Coat Apron & Linen Supply
Springfield Draw Down Towels
Walden—Eaton Towel Supply Co.
Waltham—Varsity Laundry Co.

MICHIGAN
Ann Arbor—Varsity Laundry Co.

SELMER—Peerless Towel Supply Co.
St. Louis Cup & Specialty
Victor Linen & Towel Serv. Co.
Wilkes Linen Service
Springfield—Selmer Peerless Towel Sup.
Whitely Towel Supply Co.
Springfield Paper Co.

MINNESOTA
Billings—K-B Chemical Company
Butte—Hinchcliff Linen Supply Co.
Ward Thompson Paper Co.
Great Falls—Meyer's Coffee Co.

NEBRASKA
Columbus—Columbus Laundry Company
Grand Island—Grand Island Laundry Co.
Hastings—New Method Laundry & Linen Supply
Lincoln—Sanitary Towel & Laundry Co.
McCook—Ideal Launderers & Dry Cleaners
Norfolk—Nebraska D.T.W. Co.
Omaha—Cody's Parking Co.
Omaha—Cody's Parking Co.
Frontier Towel & Linen Supply
Omaha Towel Supply Co.

NEVADA
Las Vegas—American Linen Supply Co.
Reno—American Linen Supply Co.

NEW HAMPSHIRE
Manchester—N.H. Paper Towel Service

NEW JERSEY
Hackensack—American Paper Towel Co.
American Paper Towel Co.
Ideal Towel Supply Co.
Hightstown—Towel & Linen Service
Jersey City—Central Linen Service
St. Paul—Coat Apron & Linen Service
Neptune—Central Coat Apron & Linen Service
Newark—Mechanic's Overall Service, Inc.
New Jersey Towel & Towel Supply
Paterson—Riverside Coat, Apron & Towel Supply
Red Bank—Garden State Towel Supply Co.
Trenton—Pilgrim Coat Apron & Linen Supply
Sanitary Coat Apron & Towel Supply

NEW MEXICO
Albuquerque—American Linen Sply. Co.

NEW YORK
Albany—Capitol Coat & Apron Supply Co.
Wenand—Morgan Linen Company, Inc.
Ridgewood (Brooklyn)—Allied Coat Apron & Towel Supply Co.
Well-Hitchcock Towel Supply Co.
Peerless Towel Supply Co.
Standard C. & A. Lin. Service
New York—N.Y. Towel Supply Co.
Buffalo—Office Towel Supply Co., Inc.
Cohoes—L.L. & Co. Towel Supply Co.
Inc.
Great Neck—Atlas Towel Supply Co.
Ithaca—Ithaca Laundry, Inc.
New York—A. & H. Distributors
Rensselaer—Central Coat Apron & Linen Service
Rensselaer—Central Coat Apron & Linen Service
J. & H. Towel Supply Co.
Modern Silver Linen Supply Co.
David Riemer Co.

HARRISBURG—Penna. Linen Service
McKeesport—Lich Paper Co.
Philadelphia—Chesterfield Paper Co.
Crown Coat Apron & Towel Service Co.
Germanian Linen Supply Co.
Jenkins Towel Service, Inc.
Keystone Mercantile Corp. (Pa. Coat & Apron)
Kline's Coat Apron & Towel Service
Peoples Linen Linen Service
Pennsylvania Linen Rental Serv.
Philadelphia Towel Supply Co.
Pittsburgh—American Coat Apron & Towel Corp.
Black's Linen Service
Eagle Coat & Apron Supply Co.
Independent Towel Supply Co.
David Keator
Reading—Landy Towel & Linen Service
Scranton—Pennsylvania Paper & Supply
Uniontown—Summons Towel Supply Co.
Wilkes-Barre—Sanitary Coat & Apron Supply Co.

RHODE ISLAND
Providence—Allen Towel Supply Co.
Central C. & A. Linen Service
Providence Towel Supply Co.
Providence Towel Supply Co.
Woonsocket—United Paper Co.

SOUTH CAROLINA
Jackson—Jackson Linen Supply Co.
Southern Ldry. Cleaners Inc.
Southern Ldry. Cleaners Inc., Atlanta, Ga.

SOUTH DAKOTA
Milbank—Mercantile Co.
Rapid City—Serravallo Towel & Linen Supply

TENNESSEE
Chattanooga—Southern Products Co.
Knoxville—R.B.M. Co., Inc.
Memphis—American Linen Service
Memphis Linen Supply
Memphis—Myers Paper Co.
Nashville—American Linen Supply Co.
Nashville Products Co.

TEXAS
Amarillo—Dodson Chemical Co.
Austin—Austin Paper Co.
Austin Paper Co.
Sandy's Supply
Beaumont—Shepherd's Cleaners & Launderers
Texas—Lynch & Chemical Co.
Brownsville—Model Laundry & Dry Cleaners
Bryan—American Ldry. & Dry Cleaners, Inc.
Colorado City—Colorado Steam Laundry
Dallas—City Linen Supply
Clampitt Paper Co.
Friedel Towel Service Co.
Friedel Towel Supply
El Paso—El Paso Towel Supply Co.
Fort Worth—Clampitt Paper Co.
Free Dells Paper Co.
Natastium Laundry
Houston—Admiral Linen Service
Elm's Linen Service
Friedel Supply House
Inedda Laundry Cleaning Co.
Jet Chemicals, Inc.
Steiner Co., Inc.
Longview—Baxter Sales Co.

For order in the washroom,

order from the Steiner jobber in your locality today:

DENVER—American Linen Supply Co.
Chumpe Linen Service Co.
Goodheart Broadway Ldry. Co.
Hamilton Towel Supply
Mountain Towel Supply Co.
National Towel Supply Co.
Reliable Linen Service Co.
Pueblo—Colorado Laundry & Dry Cleaning

CONNECTICUT
Bridgeport—Morgan Linen Service
Hartford—Hartford Apron & Towel Supply Co.
Swift's Coat Apron & Towel
New Haven—Central Coat, Apron & Linen Service
Stamford—Fairfield Towel Supply Co.
Banner Paper & Linen Service, Inc.

DELAWARE
Wilmington—Standard Linen Supply Co.

WASHINGTON, D.C.—Arcade Sunshine Co., Inc.
Capital Towel Service Co.
National Laundry Co., Inc.
Charles G. Stott & Co., Inc.

FLORIDA
Ft. Lauderdale—Broward Ldry. Linen Service
Jacksonville—All Brite Sales Co.
Miami—American Paper & Linen Corp.
Sanitary Linen Service Co.
Pensacola—Paper & Restaurant Supply
St. Petersburg—Tri-S Paper Supply Co.
Tampa—Kysia Towel Supply Co.

GEORGIA
Atlanta—Apex Linen Service
Steiner Co., Inc.

IDaho
Blackfoot—American Linen Supply Co.
Boise—American Linen Supply Co.
Pocatello—National Laundry & Cleaners
Twin Falls—Gem State Paper Co.

ILLINOIS
Belleville—Belleville Linen Service
Carbondale—Selmer Peerless Towel Supply Co.
Chicago—American Linen Supply Co.
Austin Towel & Linen Supply Co.
Chicago Towel Co.
Clark Products Co.
Commodities Linen Supply Co.
Margaret Etter Creche
De Normandie Towel & Linen Supply Co.
Derry Linen Supply Co.
Garden City Towel Supply Co.
Garfield Laundry
Globe Linen Supply
Great Lakes Linen Supply Co.
Ideal Towel Supply Co.
J. W. Means Co.
Merchants Towel Service
Mickey's Linen Supply
Mid-Way Linen Supply Co.
Morgan Linen Service, Inc.
Superior Laundry & Linen Supply
Peoria—Peoria Apron & Towel Supply
Porter Cup & Specialty Co.
Rock Island—Tri-City Cup & Spec. Co.
Springfield—AAA Linen Supply Service
Springfield—Clark Prods.
Troy—Modern Linen Service Co.
Urbana—Mid-State Linen Supply

INDIANA
Bloomington—New Home Laundry Co.
Evansville—Chen Towel Service
Fort Wayne—Com'l. Towel & Uniform Service

Battle Creek—Banner Linen Service
Bay City—Banner Linen Service
Consolidated Linen Service
Midwest Linen Service Co.
Cadillac—Reliable Linen Serv.
Detroit—Abbott Supply Co.
American Linen Supply Co.
American Paper Towel Co.
Atlantic Coverall Supply, Inc.
Banner Laundry Co.
City Towel Service Co.
Detroit Cup & Specialty Co. (Clark Prods.)
Detroit Towel Supply Co.
Domestic Linen Supply Co.
Economy Linen Supply Co.
General Linen Supply Co.
Independent Linen Supply Co.
Hann Linen Service Supply Co.
Lincoln Towel Supply
Marathon Linen Supply
Midwest Linen Service Co.
N. & H. Sales
Progressive Linen & Laundry Co.
Reliable Linen Service
First-Reliable Linen Service
Clark Products
Grand Rapids—Banner Linen Service
Grand Rapids Coat & Apron Service
Grayling—Midwest Linen Service
Iron Mountain—Franklin Sales Co.
Jackson—Banner Linen Service
Kalamazoo—Kalamazoo Laundry Co.
Michigan Paper Specialties
Lansing—Banner Linen Service
Sohn Bros. Laundry
Pontiac—Banner Linen Service
Port Huron—Banner Linen Service
Saginaw—Reliable Linen Service
Robertson's, Inc.

MINNESOTA
Duluth—American Linen Supply Co.
Hibbing—American Linen Supply Co.
Rochester—American Linen Supply Co.
St. Paul—American Linen Supply Co.
Henry Davis Paper Co.

MISSISSIPPI
Greenville—Janitors' Supply Co.
Gulfport—Gulfport Laundry & Cleaning
Gulf Wholesale Co., Inc.
Hattiesburg—Belco Chemical Co.
Jackson—State Chemical Co.

MISSOURI
Mannheim—Standard Printing Co.
Jefferson City—Selmer Peerless Towel Supply
Joplin—ABC Towel Supply
Kansas City—ABC Towel Supply
Major Laundered Service of K.C.
Midwest Paper Towel Co.
Standard Ldry. & Dry Cleaners
Cleaners
St. Joseph—St. Joseph Towel & Linen Serv.
Selmer Peerless Towel Supply
St. Louis—Alpine Linen & Towel Serv.
Cardinal Linen & Towel Supply
St. Charles—ABC Towel Supply
Collins Towel & Linen Service, Inc.
Colonial Towel & Linen Supply
Lin Service
Mid-West Paper Towel Corp.
Gerry—W. Leroy Towel & Linen Serv.
Munger Linen Service
Premier Linen & Towel Serv. Co.

Std. Coat Apron & Linen Service
Superior Towel Supply
Towel Tamer System, Inc.
Rochester—Inland Towel Supply Co.
Modern Coat Apron Supply Co.
Staten Island—Staten Island Linen Supply Co.
Steiner Co.
Utica—Abelev's Laundry
Waterbury—Foley Linen Supply
Watkins—Dunham Linen Supply Co.
NORTH CAROLINA
Asheville—Hensley Paper Co.
NORTH DAKOTA
Fargo—American Linen Supply Co.
OHIO
Akron—Akron Towel Supply Co.
Diamond Towel Supply Co.
Canton—A. C. Towel Supply Co.
Cincinnati—Abbott Linen Supply Co.
Alma Laundry Co.
American Linen Supply Co.
Cln. Cup & Specialty (Clark Prods.)
New Way Linen Supply Co.
Superior Laundry & Towel Supply
Ziegler Towel Supply Co.
Cleveland—Cleveland Cup & Specialty Co.
Clark Prods.
Cleveland Towel Supply
Independent Towel Supply Co.
Merchants Towel Service Co.
Pioneer Linen Supply Co.
State Chemical Mfg.
Union Towel Supply & Laundry Co.
Columbus—Atlas Towel & Industrial Co.
Star Towel Supply Co.
Meizlich Bros., Inc.
R. Smith Linen Supply Co.
Dayton—Dayton Cup & Spec. Co.
Economy Linen & Towel Service
Forest Linen Supply Co.
Lima—Empire Linen Service
Lima Linen Supply Co.
Lorain—Lorain Towel Supply Co.
Mansfield—Independent Towel Supply Co.
Morton—Anthony Laundry Co.
Newark—Licking Laundry Co.
Toledo—Toledo Towel Supply Co.
Youngstown—Penn-Ohio Coat Apron & Towel Supply
United Paper Service Co.

OKLAHOMA
Muskogee—Advance Ldry. & Cleaning Co.
Oklahoma City—Capitol Towel Service
Oklahoma Operating Co.
Tulsa—Oklahoma Janitor Supply Co.
Tulsa Linen Service Co.

OREGON
Baker—Crown Cleaners & Laundry
The Bates—Specialty Laundry & Cleaners
Eugene—Eugene Laundry
Willamette Valley Paper Co.
Newport—West Coast Ldry. & Dry Clnr.
Portland—American Linen Supply Co.
Easterday Supply Co.
Navel Supply Co.
Portland—Portland Ldry. & Dry Cleaners
Portland Laundry & Dry Cleaners

PENNSYLVANIA
Allentown—Penn Coat & Apron Supply
Allentown—D. & M. Linen Supply
Bedford—Bedford Steam Laundry
Gerry—W. Leroy Towel & Linen Serv.
Dunmore—Dempsey Overall Supply Co.
Greensburg—Clean Linen Service, Inc.

Lubbock—West Texas School Supply Co.
San Antonio—Martin Linen Supply Co.
Pollock Paper Corp.
Shiner—Shen Paper Co.
Temple—National Laundry
Texarkana—Nelson-Huckins Laundry Co.
Waco—Buchanan's Linen Supply
Dixie Products
UTAH
Ogden—American Linen Supply Co.
Salt Lake—American Linen Supply Co.
Quality Linen & Towel Service
VIRGINIA
Falls Church—Sanitary Linen Service
Tidewater Linen Supply Corp.
WASHINGTON
Petersburg—Virginia Linen Serv., Inc.
ALBANY—Sunset Laundry & Cleaners
Ellensburg—Model Laundry & Cleaners, Inc.
Everett—Everett Wholesale Paper Co.
Olympia—Star Laundry
Richland—Tri-City Linen Supply Co.
Seattle—American Linen Service
Imperial Linen & Towel Supply Co.
New Richmond Linen Supply
Overall Cleaning & Supply Co.
Packer Scott Co.
Seattle Merchants Towel Supply Co.
Scamper Paper Co.
Troy Laundry
Spokane—Conley Chemical & Supply Co.
Crystal Laundry Co.
Snohomish Towel Supply Co.
Tacoma—Cascadia Linen Supply
Tumwater Supply Co.
Yakima—Carter Hock & Co.
Central Linen Supply
General Paper & Supply, Inc.
Yakima Steam Laundry
Walla Walla—Campbell Industrial Cleaning Co.
Walla Walla Steam Laundry
WEST VIRGINIA
Charleston—Charleston Laundry
Industrial Towel Service
Charleston Linen Service, Inc.
National Towel Supply
Clarksburg—Mountain State Linen Service
WISCONSIN
Madison—Clean Towel Service
Milwaukee—American Linen Supply Co.
Paper Div.
Milw. Cup & Specialty Co. (Clark Prods.)
WYOMING
Casper—Casper Linen Supply Co.
Cheyenne—Cheyenne Steam Laundry
Geyser Ldry. & Dry Cleaners
Reliable Cleaners
HAWAII
Honolulu—Hawailan Linen Supply Ltd.
PUERTO RICO
San Juan—M. A. Zeppenfeldt
CUBA
Havana—Cuban American Linen Supply
MEXICO
Tearakana—Nelson-Huckins Laundry
Atzacotalco, D.F.—U.S. Sanitary De Mexico
CANADA
East of Rocky Mountains—Kilgore, Ltd.
West of Rocky Mountains—Pacific Mills
Vancouver, B.C.
Acme Towel Co.
B.C. Towel Co.
Canadian Linen Supply

steiner co., inc.
740 RUSH STREET CHICAGO 11, ILLINOIS

Lighting by **DAY-BRITE** makes the big difference



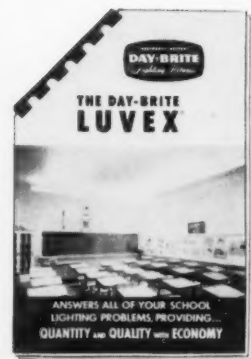
Children do better

when textbooks, desk tops and chalkboards are lighted better. Their eyes are protected against strain and fatigue; they can concentrate on studies and make more progress; their over-all environment is improved; classroom hours are more productive for pupils and teachers alike... For schoolroom lighting that makes the *big* difference, consult your Day-Brite representative before you decide. You'll find him in your classified phone directory. Or, send for special school-lighting data.

Nation's largest manufacturer of lighting equipment
—for schools, stores, industry, offices, hospitals



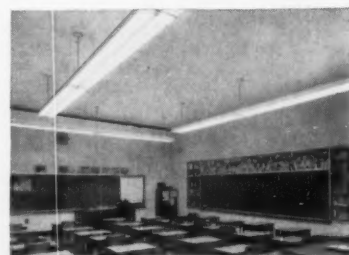
Day-Brite Lighting, Inc., 5451 Bulwer Ave., St. Louis 7, Mo.
In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario



Get this school-lighting booklet

The School Lighting Division of Day-Brite has prepared a special quick-reference booklet of definite value to everyone interested in the proper illumination of our schools—whether it involves original lighting or relighting. It clearly illustrates why more schools install Day-Brite LUVEX® Fluorescent Fixtures than any other make!

Send for your copy of this informative booklet—it answers all your school-lighting problems, combining Quantity and Quality with Economy. Before you decide, call your Day-Brite School-lighting Representative. You'll find him in your classified telephone directory.



Typical classroom lighted with Day-Brite LUVEX, Jeffery Public School, Pittsburgh, Pa. Trefry Engineering, Designers and Engineers; Walter Electric Company, Electrical Contractors.



61139

The NATION'S SCHOOLS



Mr. Leonard J. Mangum, Schrafft's Supervisor of Utility Usage, and Mr. Carroll J. Burns, Unit Manager, inspect one of their most recent Rinse Injector installations. This one, at 1496 Broadway, New York, helped save more than \$33,000 for this outstanding restaurant chain.

SCHRAFFT'S restaurants save \$33,000 per year with E. L. Rinse Injectors!

Schrafft's installed their first E. L. Rinse Injector nearly two years ago. Savings of dishwashing compound, towel expense and dishroom efficiency were so impressive that additional injectors were ordered for 11 of Schrafft's New York restaurants. Last year alone Schrafft's realized over \$33,000 in total savings!

Schrafft's story isn't unique—Over 4,000 installations prove that an E. L. Rinse Injector can cut your hand toweling, excess handling and

attendant breakage by at least 50%. It eliminates all water-spotting, ends wet stacking and gives you sparkling dry tableware right from your dishmachine. All this plus stepped up manpower efficiency . . . and you know what that can mean!

EXCLUSIVE LIFETIME GUARANTEE including parts and labor goes with every E. L. Rinse Injector as long as you use Rinse Dry exclusively. *Free installation and regular service* are all part of the bargain! We'd like

to tell you about it. *Why not mail the coupon.* No obligation, of course.

SEND TODAY FOR FULL DETAILS

ECONOMICS LABORATORY, INC.
250 Park Ave., New York 17, N. Y.

Please check—

☐ Send me full information ☐ Have sales-man call

Name _____

Firm _____

Address _____

City _____ State _____



ECONOMICS LABORATORY, INC.

General Offices: St. Paul, Minnesota
Executive Sales and Advertising Office: 250 Park Avenue, New York City, New York

THE
PREFERRED
PLUMBING

CR

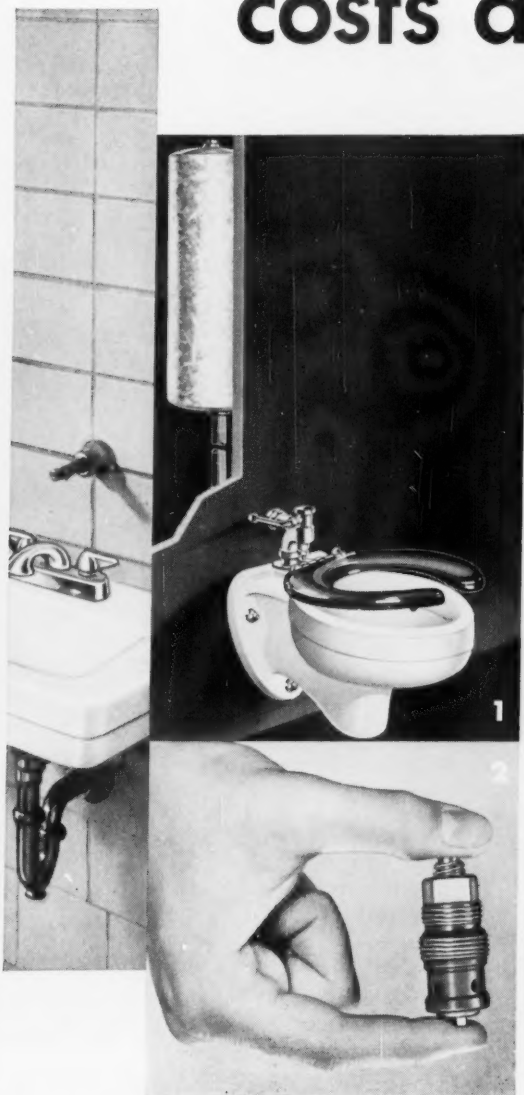
Off-the-floor fixtures



Mopping is so easy and fast. Notice that this school uses nothing but Crane wall-hung fixtures. From left to right — Crane Walton closet, Crane Neu-Rio urinals, and Crane Norwich lavatories. The newly designed Norwich lavatory has Neu-Spray fitting with strainer, which permits a spray-type hand wash for easy quick washing.



keep school maintenance costs down to earth



Cleaning toilet rooms is reduced to a minimum with Crane off-the-floor fixtures. Restrooms stay neater through the day—mop up quicker at night because you get a free sweep of the floor from wall to wall.

Crane fixtures give a better impression, too. They are styled by famed designer Henry Dreyfuss to look modern *years* longer (and engineered by Crane to last longer).

Surprisingly enough, Crane quality costs no more. So why settle for less? Why not get complete details from your Crane Branch or Crane Wholesaler today?

CRANE CO.

General Offices: 836 South Michigan Avenue, Chicago 5
VALVES • FITTINGS • PIPE • KITCHENS • PLUMBING • HEATING

1. Automatic seat-operated valve that never "forgets". Automatic flush (from concealed tank) saves water. It's shown here on a Rapidway wall-hung closet.

2. Exclusive Dial-ese replacement unit includes all working parts of the Crane faucet. Interchangeable and easily replaced. Crane faucets last longer and require less maintenance. Unlike ordinary faucets, they close with the water pressure to minimize dripping.



Carpenter Body Works, Inc.
Mitchell, Indiana



Southern Div.,
Superior Coach Corp.
Kosciusko, Mississippi



Superior Coach Corp.
Lima, Ohio



Perley A. Thomas
Car Works, Inc.
High Point, Carolina



Ward Body Works, Inc.
Conway, Arkansas

Top of the class—Ford School Bus Chassis

Tops in safety features—meets and often surpasses N.E.A. Safety Requirements. New blowout-resistant tubeless tires and Lifeguard steering wheel are *standard* equipment.

Tops in daily operating economy—Ford's '56 Short Stroke engines develop up to 26% more power. Pistons travel shorter distance at slower speeds—*less power waste, less wear, greater gas savings.* 5 proven Short Stroke engines, from the 133-h.p. Six to the mighty 175-h.p. V-8. (4 wheelbase lengths with capacities up to 66 passengers.)

Steering gear safety—for max. load and speed, exceeds N.E.A. standards.

Strong front bumper—can withstand enough shock without permanent distortion to meet N.E.A. standards.

Long-life springs—stationary eyes of front springs protected by wrapper, meet N.E.A. standards.

High front axle rating—for safe support of maximum load, exceeds N.E.A. standards.

Double-action front shock absorbers—exceed N.E.A. standards.

Big fuel capacity—fuel tank has minimum 30 gallon capacity, meets N.E.A. standards.

High-capacity rear axle—full-floating type rear axle exceeds N.E.A. standards.

Full-load power—climbs 3% grade at more than 20 m.p.h., exceeds N.E.A. standards.

Fuel safety—flexible fuel and oil-proof connections at engine meet N.E.A. standards.

Non-whip drive shaft—metal guard protects each section, meets N.E.A. standards.

Cushioned ride—wide-span progressive rear springs exceed N.E.A. standards.

Tire dependability—front and rear tires are of same size and ply rating to meet N.E.A. standards.

Quick braking—to stop vehicle within 22 feet at 20 m.p.h., exceeds N.E.A. standards.

Powerful braking power—1,000 cu. in. capacity brake vacuum reservoir meets N.E.A. standards.

Write today: Ford Division of Ford Motor Company, P.O. Box B-3, Dearborn, Michigan, or see your dealer.

FORD TRUCKS LAST LONGER



Oneida Products Corp.
Canastota, New York



Hackney Bros. Body Co.
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The Wayne Works
Richmond, Indiana



Blue Bird Body Co.
Fort Valley, Georgia



Excel Body Corp.
Durant, Oklahoma

When you turn this page,
you will read a message
which ranks in significance
with any we have published in
our 50-year history.

Herman Nelson Division
American Air Filter Company, Incorporated.

Herman Nelson Announces Designed, Built, Priced



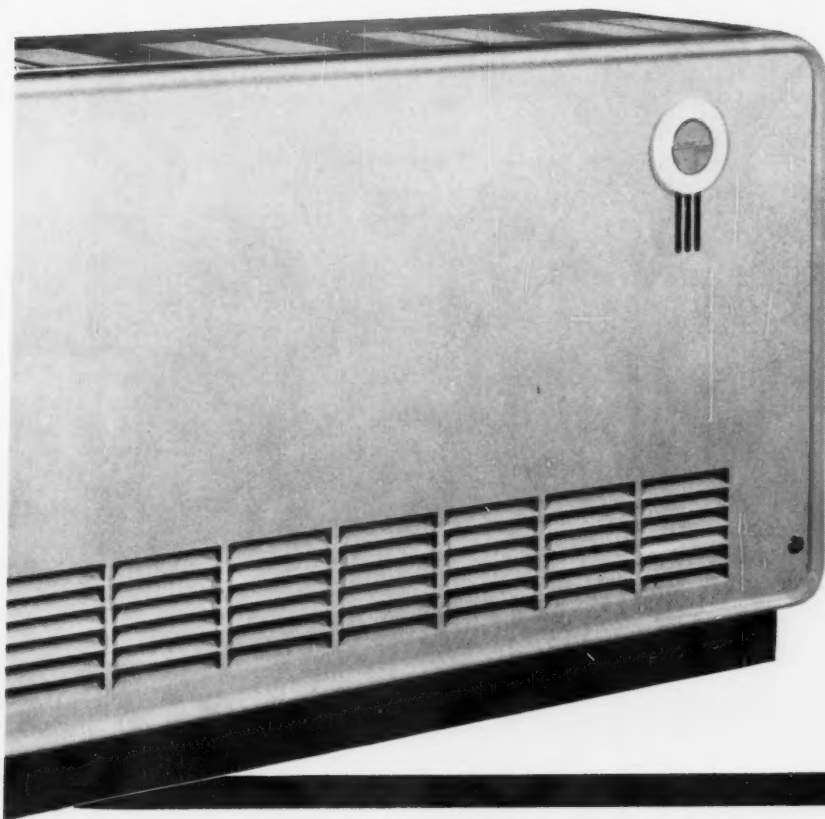
NOW—after years of research, developing and testing—*it's here!* The Herman Nelson HerNel-Cool Air Conditioner, long-sought solution to year round classroom comfort, is the *only unit* especially designed to meet exacting classroom needs.

10 Years in Development. Herman Nelson engineers saw the "handwriting on the chalkboard". As far back as 1945, they were already at work on the problem of developing a unit that would combine complete summertime air conditioning with the long accepted heating-ventilating-natural cooling advan-

tages of the unit ventilator. The ultimate goal was to produce a year round air conditioning unit, sensitive and versatile, automatic and . . . *economical.*

Fully Tested . . . In Classrooms. There were countless design changes, innumerable modifications. Finally, the working models—with factory installed packaged controls, electronic or pneumatic—were ready. These were put to work proving themselves on the job. First installations were made in classrooms throughout the South, where air conditioning needs could put them to the stiffest tests. Here—during the

First AIR CONDITIONING UNIT Specifically for Schools



winter months—they function as natural cooling-heating-ventilating units. When temperature zooms, they switch automatically to mechanical air conditioning. Conditions were rigorous, but the HerNel-Cool Air Conditioner exceeded every requirement!

It's Ready For You . . . NOW. Recognizing the growing need and demand for year-round air conditioning at the college, university and high school level, the Herman Nelson HerNel-Cool Air Conditioner is now ready to meet this requirement. Years of proof-in-use is always a sound buying gauge. And the

HerNel-Cool Air Conditioner *has it*. For your FREE copy of our new 20-page book "HerNel-Cool AIR CONDITIONER for Schools," write Herman Nelson Unit Ventilator Products, American Air Filter Company, Inc., Louisville 8, Kentucky

herman nelson
PRODUCTS

American Air Filter Company, Inc.
System of Classroom Cooling, Heating and Ventilating

in a class by itself . . .



Burroughs Sensimatic Accounting Machine pilots you through every budgetary and general accounting job...automatically!

Just slip in the budget ledger. And the Sensimatic's ready to go on your all-important budget accounting. All finished? Then, simply flick the job selector knob. And just like that you're set to go on payroll, or students' accounts, or athletic department accounting.

And best of all, you go as you please! For no matter how fast you index amounts, the Sensimatic carriage will instantly, *automatically* travel from column to column, form to form . . . printing the figures right where they belong. (Just as if it has a mind of its own!)

The exclusive sensing panel's the reason. It actually "knows" exactly which accounting job you want buttoned up the instant you flick the knob.

And would you believe it? . . . that's only one of

many reasons why this machine is so simple to operate that even beginners save you countless accounting hours and dollars. Save you so many dollars, in fact, that before long your Sensimatic will pay for itself over and over again!

So how about a complete demonstration? There's absolutely no obligation. All you do is call our nearby branch office. Or write to Burroughs Corporation, Detroit 32, Michigan.

Wherever There's Business There's

"Burroughs" and "Sensimatic" are trademarks

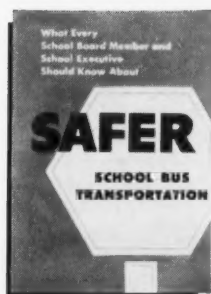


FOR SAFETY'S SAKE

specify AIR BRAKES—



**The brakes proven for safer operation
on virtually every public bus in the nation!**



WRITE FOR

FREE INFORMATION

Here's the complete story on how much Air Brakes can contribute to school bus safety. Write to the factory today.

Over the years in public bus operation, Air Brakes have proved to be the safest, most dependable stopping power under every operating condition. In fact they have rolled up such an overwhelming degree of superiority over all other types of brakes that virtually all of the 103,000 public buses operating in 1954 were Air Brake equipped!

The reason is obvious—public bus companies can't afford to take chances on passenger safety.

As a school administrator, charged with

the vital responsibility of providing school children with safe school bus transportation, we think we can assume that you won't want to take chances either. That's why we recommend you make certain your students receive all the extra protection of the world's safest braking system by *insisting* that all bids submitted to your board on new school buses include Air Brakes.

The choice is yours—for safety's sake be sure you make it dependable Bendix-Westinghouse Air Brakes!

THE BEST BRAKE IS AIR . . . THE BEST AIR BRAKE IS

Bendix-Westinghouse

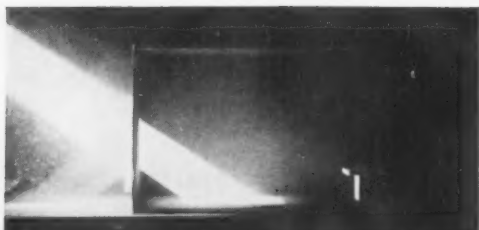
BENDIX-WESTINGHOUSE AUTOMOTIVE AIR BRAKE COMPANY

General offices and factory—Elyria, Ohio. Branches—Berkeley, Calif. and Oklahoma City, Okla.

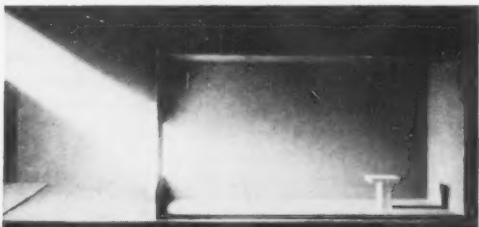




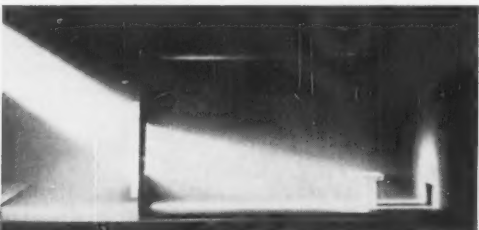
THERE'S MORE TO daylight THAN MEETS THE EYE



"Smoke Box" photo—window glazed with clear glass.



Diffusing glass in smoke box.



Directional diffusing glass in smoke box.

Stop Glare and Heat with Light Diffusing Glass

Like other natural resources daylight needs to be controlled to be of greatest benefit. "Raw" daylight seldom meets specific lighting needs, since it contains a host of unwanted factors that cause discomfort and inefficiency. Obtain the results you want by specifying a glass "visioneered" to meet your requirements.

Good daylighting can be achieved with a handsome, modern, diffusing pattern which disperses softened light deep into interiors, provides comfortable, even illumination without harsh glare and sharp contrasts that cause costly eye fatigue. And if excess heat is a problem, keep interiors more comfortable with Mississippi Coolite, heat absorbing, glare reducing glass, which absorbs up to 50% of solar heat rays.

In your new building or remodeling projects gain all the benefits of natural light without the drawbacks. Control "raw" daylight by specifying Mississippi Glass. Available everywhere in a wide variety of patterns and surface finishes, wired and unwired, all "visioneered" to solve your daylighting problems.

Write today for free catalog No. 56G • Address Department 15.



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NEW YORK • CHICAGO • FULLERTON, CALIFORNIA

WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS



*Experienced
Hands*

of the *Hillyard* Maintainer®

can uncover Big Savings

in Your Floor Maintenance Program

★ 1957 ★

★ MARKS OUR
★ 50th Year
★ OF SERVICE ★



ST. JOSEPH, MO.

PASSAIC, N. J. SAN JOSE, CALIF.

*Branches and Warehouses in Principal Cities
(over)*

why save pennies

when you can *save dollars!*

95¢* of Every Floor Maintenance Dollar IS SPENT FOR LABOR

* Office Building Records show that maintenance of a square foot of rentable floor space costs, on the average:

42¢ per year for **LABOR**
2.2¢ per year for **SUPPLIES**

This is clear-cut confirmation! Your real chance to save money in floor maintenance is in the **BIG 95¢** out of every maintenance dollar that goes for **LABOR**.



—ONLY 5¢
for Supplies!

A *Hillyard* FLOOR TREATMENT PLAN CAN CUT LABOR COSTS UP TO 50%

ELIMINATE the whole operation of rinsing with Hillyard Super Shine-All neutral chemical cleaner.

SAVE 3 waxings out of 4 (required by inferior products) with Hillyard Super Hil-Brite 100% Carnauba Wax.

Hillyard *specialized* Floor Treatments may cost a few pennies more, but they will save you many dollars. Finest quality materials and specialized treatment methods make application easier, give longer wear, eliminate whole steps of treatment. For example, you can:

GAIN greater wood floor wear and **SAVE** expensive refinishing with Hillyard Wood Finishes—they have as much as 3 times the abrasion index of any other product on the market.

END all need for waxing of terrazzo and concrete with Hillyard Super Onex-Seal.



Charles Rose, Jr.
Second Generation
Hillyard "Maintainer"



Here's One of the
130 Men Who Are
**"MAKING
THIS PLAN
WORK"**

Don't buy "janitor supplies," then wonder how to use them. Save money and time by buying a *treatment plan*, supervised and serviced by the Hillyard Maintainer®. He will gladly train your custodial staff in most efficient methods. That's why we say he is "On Your Staff, Not Your Payroll".

Use Products Approved by Flooring Manufacturers and Contractors

ASK FOR A FREE HILLYARD SURVEY

The Hillyard Maintainer® will survey each of your floors, and recommend a *comprehensive, specialized* treatment plan tailor-made for each—to give you the utmost in protection, appearance, sanitation, economy. No obligation!



HILLYARD CHEMICAL CO.
St. Joseph, Mo.

Please have your nearby Hillyard Maintainer show me how I can save real money on floor care.

Name _____ Title _____

Institution _____

Address _____

City _____ State _____

Send today
for a **FREE**
**FLOOR TREATMENT
SURVEY**

HILLYARD CHEMICAL CO.
St. Joseph, Mo.



Praise for Hillyard Performance

from an Architect:

"Your help will not be forgotten soon! Please know that I am deeply grateful for your personal interest in the job and for getting us out of the 'jam'. Your products will not suffer as a result of the experience."

from a Building Superintendent:

"I also want to commend the wonderful service rendered us by your Maintenance Consulting Engineer in our area. His advice and interest have been most helpful, and his friendly and efficient service is greatly appreciated. We are very glad we discovered your fine floor products."

from an Institutional Administrator:

"We have found the advice and assistance of the Hillyard Maintainer in our territory to be honest and sound at all times, and not in any way prejudiced on making a sale. We are glad to endorse heartily both the Hillyard products and service. Our experience with these products bears out the old saying that 'the best is cheapest in the long run.'"

Naturally I use
an adult encyclopedia
Real research is fun!



THE NEW 1956 AMERICANA

30 volumes
25,500 pages
60,000 articles
10,000 illustrations
44,000 cross references
300,000 index entries; 21,000 pages have
been completely revised (1950-1956)

The Encyclopedia **AMERICANA**
The International Reference Work

2 West 45th Street, New York 36, N. Y. ©Americana Corporation, 1956

COMPARE THE PACK

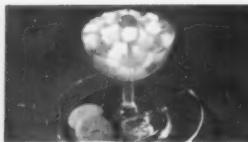
See which gives you fresher flavor... more



Compare these Heinz fruits or vegetables against



Apricot Halves



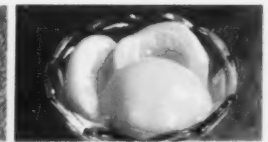
Fruit Cocktail



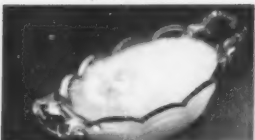
Grapefruit Segments



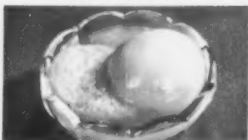
Bartlett Pear Halves



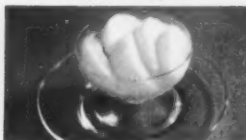
Cling Peach Halves



Apple Sauce



Freestone Elberta Peach Halves



Freestone Elberta Peach Slices



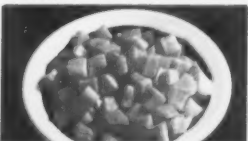
Fancy Hawaiian Pineapple Tidbits



Fancy Hawaiian Sliced Pineapple



Sliced Carrots



Diced Carrots



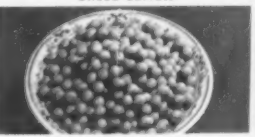
Whole Kernel Corn



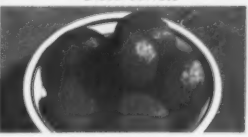
Cream Style Corn



Lima Beans



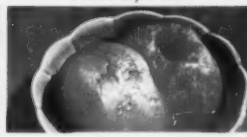
Sweet Peas



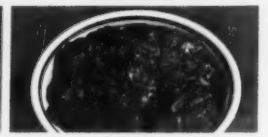
Whole Beets



Sliced Beets



Whole Tomatoes



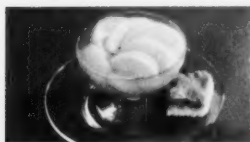
Spinach

AT HEINZ EXPENSE!

portions . . . less liquid . . . better color!



any ordinary brand



Cling Peach Slices



Sliced Apples



Whole Blue Lake Green Beans



Cut Blue Lake Green Beans

HEINZ



FRUITS AND VEGETABLES

YOU KNOW IT'S GOOD BECAUSE IT'S HEINZ

We'll send you a Heinz

#10 tin for the test FREE!

We're taking this way to prove to you that Heinz fruits and vegetables are a better buy than other brands, canned or frozen. Here's why:

More appetite appeal. Fresh flavor, color, texture.

More solid pack. More servings per tin.

Every tin the same. It's all pick-of-the-pack.

See, measure and taste for yourself. Fill in and mail the coupon. We'll rush you a free #10 tin of whatever Heinz fruit or vegetable you choose. It takes only one minute to compare—and you'll agree that your best buy in fruits and vegetables is Heinz!

MAIL FOR FREE #10 HEINZ TIN

H. J. Heinz Company, Hotel & Restaurant Division, Box 28, Pittsburgh 30, Pa.
Send me FREE Heinz tin so I can compare it
with other brands. I want to test _____
(which fruit or vegetable)

Name _____ Position _____

Restaurant or Company _____

Street _____

City _____ Zone _____ State _____

When Selecting Gymnasium Bleachers ... Consider the Custodian, too



Universal Roll-A-Ways* are Easier to Clean and Keep Clean

In addition to comfortable seating, ease of cleaning should be considered carefully when selecting gymnasium bleachers. Here's what W. R. Cordis, Superintendent, Princeville, Illinois, Community High School, has to say:

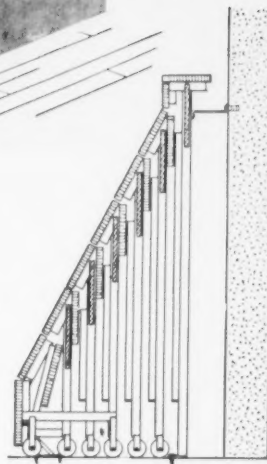
"When considering the purchase of folding bleachers, we made a tour to a number of schools to see installations of different makes. We decided on *Universal* Roll-A-Ways because of the easy operation plus the comfort and leg room which they provide... also the ease with which these stands may be cleaned following a game."

He found that both seat boards and foot boards

tilted sharply while the bleachers were being moved to closed position... dropping after-game debris to the open floor for easy sweeping. No other bleacher offered this important feature. Write today for free catalog.

THIS EXPERIENCED MAN

... Warren Larson of Warren Larson Co., 1835 Summerdale Ave., Chicago (covering northern Illinois)... is one of many *Universal* representatives throughout the nation who will be glad to show you the superior advantages of Roll-A-Way Bleachers. Don't hesitate to call for the representative in your area.



Above... cross-section of *Universal* Roll-A-Way in closed position. While unit is moving backward during closing operations, seat boards fold face out to form a sloping safety front and foot boards fold vertically... dropping all debris to the open floor for easy sweeping. Practically nothing is carried back under closed bleachers. Seat boards may be dusted quickly with large mop, as illustrated.

UNIVERSAL BLEACHER COMPANY

Champaign, Illinois • Representatives in principal cities

* Trade-mark Registered



THERE'S SAFETY
IN THE SHINE
IF THERE'S
DU PONT LUDOX®
IN THE FLOOR WAX

Ask your maintenance man or janitor supply house for one of the many fine waxes on the market containing "Ludox" colloidal silica—Du Pont's anti-slip ingredient for safer floors. E. I. DU PONT DE NEMOURS & CO. (INC.), GRASSELLI CHEMICALS DEPT., WILMINGTON 98, DELAWARE. In Canada: DU PONT COMPANY OF CANADA LIMITED, BOX 660, MONTREAL, P. Q.



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

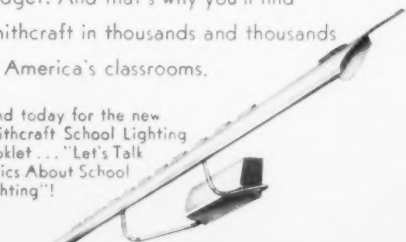
Easy on the eyes...

...EASY ON THE BUDGET!

The need for good lighting in today's schools is as inflexible as today's school budgets. It's as unwise to compromise with the quality of lighting as it is impossible to increase a rigid construction budget.

Under these conditions, the lighting of school classrooms represents a design and production problem that Smithcraft is proud to have solved. The lighting fixtures illustrated on this page meet ideally the six Basic Factors of School Lighting: Economy, Efficiency, Ease of Installation, Ease of Maintenance, Appearance and Safety. These factors are your guide to the best in lighting at costs well within the most stringent budget! And that's why you'll find Smithcraft in thousands and thousands of America's classrooms.

Send today for the new Smithcraft School Lighting Booklet... "Let's Talk Basics About School Lighting"!



Smithcraft CHALKBOARDER

specifically designed for proper illumination of chalkboard, bulletin boards, etc.



Smithcraft EYE-Q

two-light all-steel louvered fixtures.



Smithcraft FEDERAL

two-light all-steel or plastic-sided louvered fixtures.



Smithcraft MERCURY

two-, three-, or four-light all-steel louvered fixture.



Smithcraft SHERATON

two- or four-light plastic-sided louvered fixtures.

Smithcraft

LIGHTING DIVISION
CHELSEA 50, MASSACHUSETTS

America's finest fluorescent lighting

Master Key

to elementary school **WARDROBE PROBLEMS**

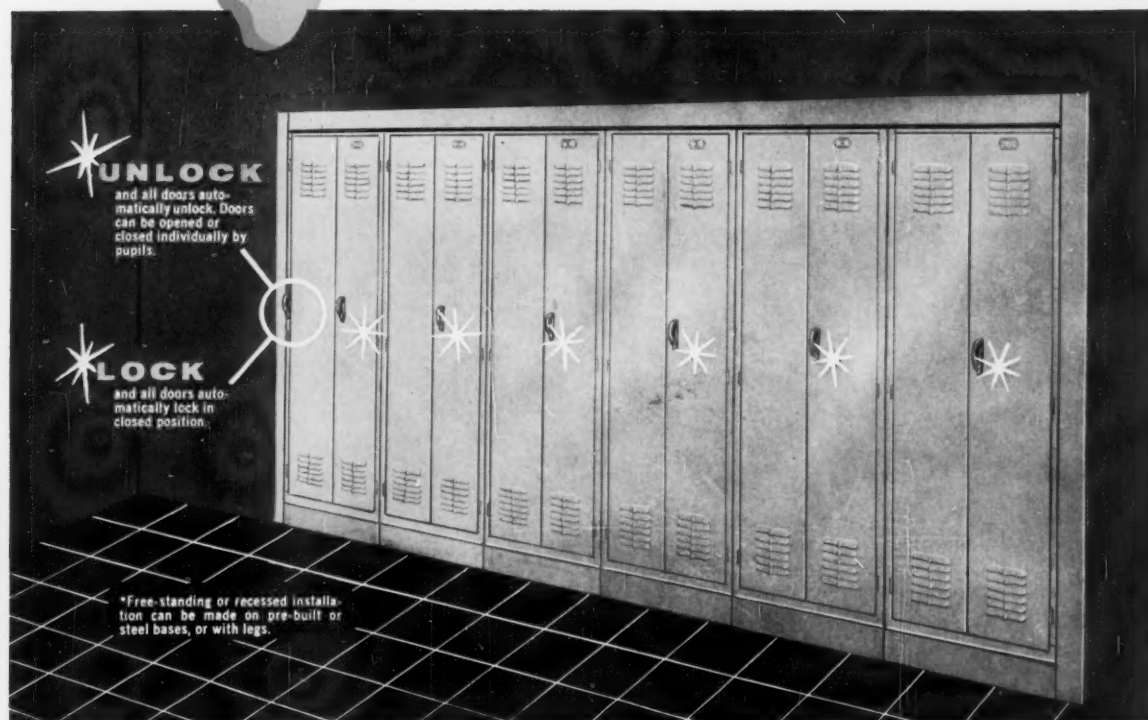
- Most efficient and practical of all facilities for apparel storage in elementary schools
- A single key controls the automatic group unlocking of all doors
- Positive pre-latching insures automatic locking of doors
- Flush installation requires only 16" deep unfinished recess*. (Grade-Robes are 22" wide; 15" deep; 60" high without legs)
- Three standard interior arrangements for 4 to 6 pupils, plus teachers' wardrobe or bookcases
- Rugged die-formed steel construction in three finishes: Desert Sand, Olive Green or Gray

Ask for **NEW** catalog



FRED MEDART PRODUCTS
CO., INC. • 3532 DeKalb St.,
St. Louis 18, Mo.

Medart grade- robes

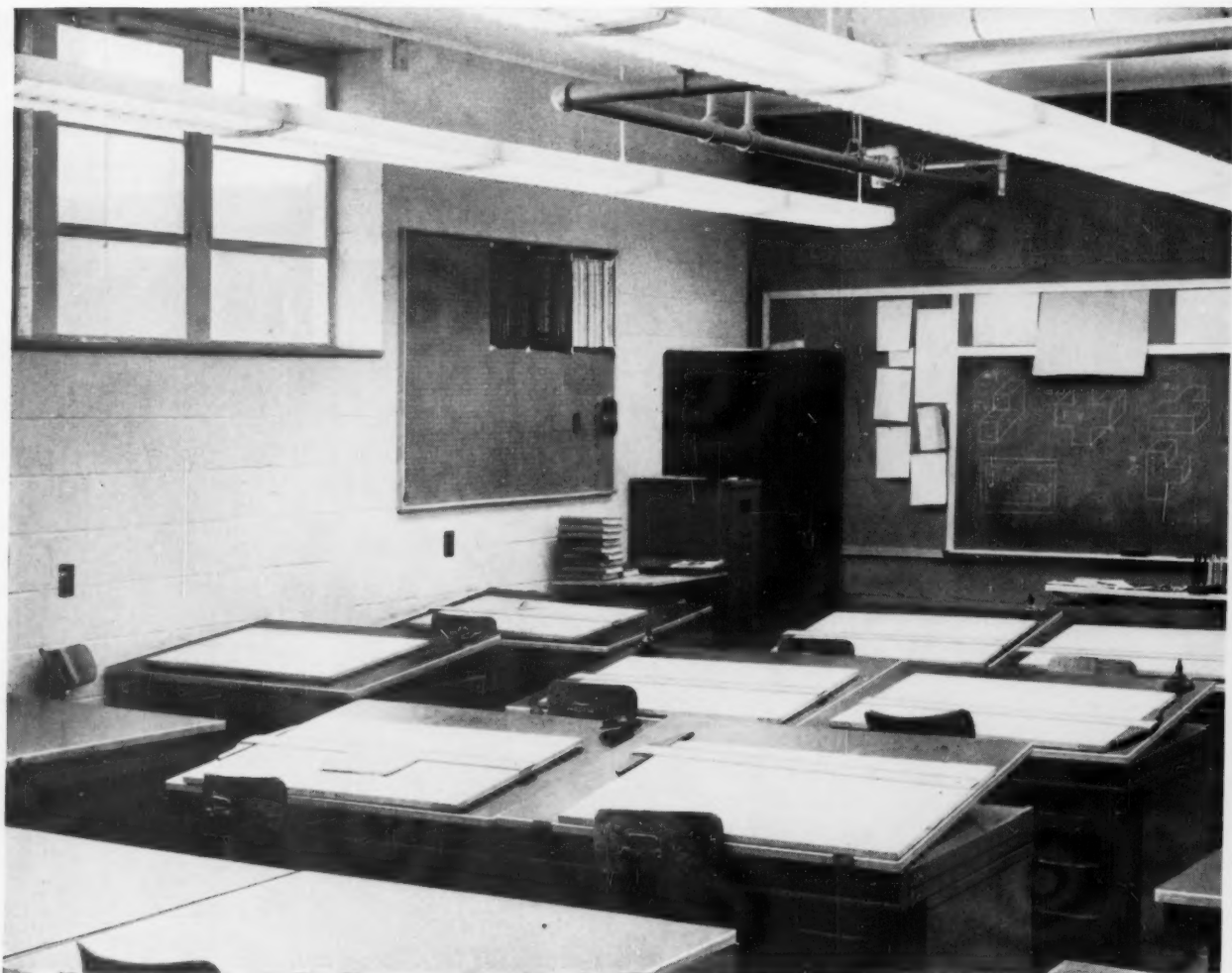


NO DANCING DRAWING BOARDS...HERE!

No glare. No harsh contrast. No dancing drawing boards from eye fatigue. Westinghouse LC luminaires, mounted in continuous rows, provide students with uniform light that's easy on the eyes. And school officials report that these new LC's, with luminous wrap-around side panels, create an even flow of light from one end of the fixture to the other.

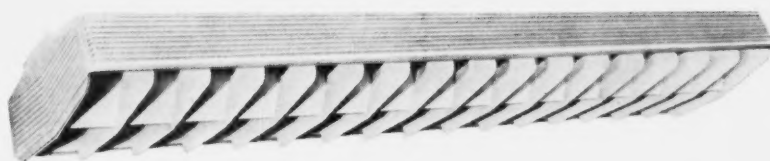
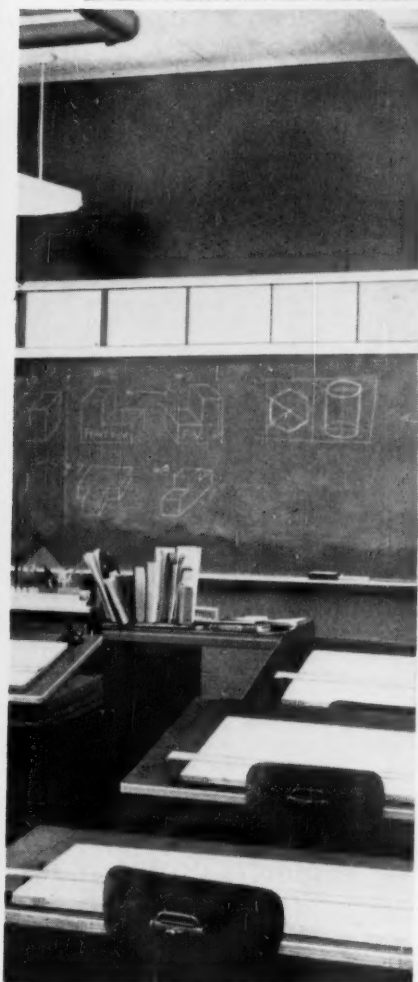
Westinghouse LC luminaires are really versatile. Their shallow design and smooth good looks are right at home in classrooms, mechanical drawing rooms, home economics rooms; in fact, wherever school activity demands comfortable seeing conditions. In addition, they can be relamped and cleaned with ease by simply swinging open hinged louvers.

Planning a modernization or expansion program? Let Westinghouse, largest manufacturer of commercial, industrial, and flood lighting, suit your specific requirements. Ask your nearby Westinghouse distributor for more details. Or write Westinghouse Electric Corporation, Lighting Division, Edgewater Park, Cleveland, Ohio. J-04393




FRANKLIN
TOWNSHIP
HIGH SCHOOL

Franklin Township High School,
Newlonsburg, Pennsylvania.



Westinghouse LC luminaires come in a variety of styles to suit your requirements. Four-foot and eight-foot lengths, two-lamp and four-lamp widths with two types of shielding make the Westinghouse LC an extremely flexible unit. It provides direct-indirect light distribution when suspended, and direct distribution when surface-mounted. All metal surfaces are protected by Bonderite for corrosion resistance.

YOU CAN BE SURE...IF IT'S
Westinghouse 

TOILET COMPARTMENT CONSTRUCTION THAT Saves money for building owners

Ask

Six Searching Questions

TO EVALUATE

Sanymetal PORCENA*

(*Porcelain on Steel)

LABEL OF QUALITY FOR LOWEST MAINTENANCE

Porcena meets Porcelain Enamel Institute standards for acid-resisting porcelain enamel — recognized label of quality. Quality enamel for toilet compartments, pioneered by Sanymetal, costs less to maintain. It withstands scratches, shocks, is easily cleansed of pencil and lipstick marks, never requires refinishing.

YOUR REASON for selecting Sanymetal PORCENA (Vitreous Porcelain on Steel) as the material for toilet compartments is to save money for the building owner. PORCENA saves because it is durable, so easily cleaned. But to compare PORCENA with others products, get candid answers to these questions:

Is the product —

- ... proved by many thousands of successful installations, not by a few, to be beyond an "experimental" stage? *Sanymetal Porcena is!*
- ... guaranteed for quality attested by the Porcelain Enamel Institute label? *Sanymetal Porcena is!*
- ... available in 22 lustrous, lasting, uniform colors? *Sanymetal Porcena is!*

LOOK FOR THIS



NAMEPLATE
WHICH IDENTIFIES EVERY
SANYMETAL INSTALLATION

- ... fully engineered so there is no need to drill, cut, or shape the porcelain surface, exposing bare metal? *Sanymetal Porcena is!*
- ... fitted with hardware designed to match the extra durability and weight of porcelain enamel construction? Hardware for *Sanymetal Porcena is!*
- ... backed by 20 years of experience in which *not one* installation has failed, faded, required repair or replacement in normal use? This is true of *Sanymetal Porcena!*

Ask these revealing questions, and let the answers be your guide.

See Sweet's, or send for Catalog 93 describing all Sanymetal Compartments. If you wish we will mail you all advertisements in this series explaining construction details that mean quality.



Sanymetal®

PRODUCTS COMPANY, INC.

1693 URBANA ROAD • CLEVELAND 12, OHIO

PORCENA is a long-life construction feature available on all *Sanymetal* Flush Type Compartments



Safety plus...because of Dodge dependability

The dependability of Dodge School Buses is looked upon by those responsible for American school children as a safety factor that goes far beyond the usual safety requirements.

You can be sure, when your school bus is a Dodge, that it incorporates the newest and finest advances in school bus design and engineering, and that it has been built with the care and extra strength traditional with Dodge products. *You can be sure* that it meets or exceeds all safety standards recommended by the National Conference on School Bus Standards.

Your Dodge dealer will tell you why a Dodge School Bus can promise you low-cost, dependable transportation, year after year. See him soon.



NEW "TOWN WAGON" FOR SMALLER SCHOOLS

Also for larger schools as a feeder bus. Strongly built body on rugged Dodge $\frac{1}{2}$ -ton truck chassis. Wide seats comfortably accommodate eight adults. Rear seat easily removed, providing 90 cu. ft. of cargo space. Two separate braking systems for extra safety. Powered with either the thrifty six-cylinder engine or the famed Power-Dome V-8.

DODGE "Job-Rated" School Bus Chassis

School Bus Chassis for Bodies Accommodating 30, 36, 48, 54, 60, and 66 Passengers

MODEL G56, G58-153" WB 10,500 and 12,000 lbs. G.V.W. For 30 and 36 pupils.	MODEL H56, H58-193" WB 14,500 and 16,000 lbs. G.V.W. For 48 pupils.	MODEL H56, H58-217" WB 14,500 and 17,000 lbs. G.V.W. For 54 pupils.	MODEL H56, H58-217" WB 17,000 and 18,000 lbs. G.V.W. For 54 pupils.	MODEL K58-236" WB 17,500 and 21,000 lbs. G.V.W. For 60 pupils.	MODEL K58-254" WB 21,000 lbs. G.V.W. For 66 pupils.



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that's efficient, simple, inexpensive, unobtrusive

GPL *ii-TV** provides a complete closed-circuit TV teaching system designed and scaled to meet the needs of a single school or an entire school system. Utilizing GPL's intensive experience in building the finest in studio TV equipment, *ii-TV* gives bright, clear pictures even under minimal light, is so simple in operation that no technical staff is needed to run it, so unobtrusive that teaching can be carried on without interference with the regular classroom atmosphere.

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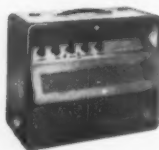
GPL makes a complete line of television equipment, including the most complex types of studio apparatus. All embody the same designing skill, high quality materials, and precision manufacture. However, for the vast majority of schools and school systems, *ii-TV* will provide everything needed for television teaching.

*The industrial-institutional TV System made by General Precision Laboratory.

Here's all you need



The GPL *ii-TV* Camera is smaller than a football, weighs only five pounds. Its sensitive vidicon tube picks up quality pictures at low light levels. Camera draws only 180 watts, plugs into any ordinary AC outlet.



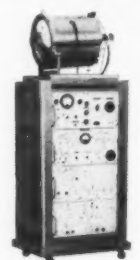
GPL *ii-TV* Control Unit in a compact carrying case weighs only 26 pounds. One person can easily carry the camera and its controls.



GPL Switching Equipment permits complete flexibility so that the teacher can, if desired, control close-ups, angle shots, long shots, and so forth. It is equally easy to shift transmission points or to switch from one classroom to another.



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General Precision Laboratory Incorporated, manufacturer of *ii-TV*, is a leading producer of broadcast, military, theatre and industrial TV equipment. The same high quality materials, skilled design and precision construction used

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Looking Forward

Let's Be Open-Minded About Class Size

THROUGHOUT the nation, as we listen to discussions of teacher shortage—at conventions, institutes and committee meetings—the teacher-aide plan eventually is brought into the conversation. Almost immediately someone jumps to his feet—frequently a young theorist far removed from practical school administration—to decree pontifically that under no circumstances must we let the teacher-pupil ratio go beyond 25 to 1.

Actually, this isn't the issue at all, but it blocks further discussion. Anyone who seeks to renew the question is looked upon contemptuously as if he wanted to beat teachers and rob children.

This assertion that a classroom should have no more than 20 or 25 pupils per teacher is a classic example of canned thinking. Any idea that is repeated many, many times tends to become accepted as fact, without actual proof or evidence.

This tendency to jump to conclusions was regretably evident at the recent convention of the Association for Supervision and Curriculum Development in New York City. At breakfast, in lobby sessions, and in evening groups that were "shooting the breeze," the so-called Bay City teacher-aide project received considerable lambasting. Some of the critics were forming opinions from misinformation they had received from other members or from inadequate descriptions they had read in popular magazines. Few, if any, had actually visited the project. Nevertheless, these critical attitudes took form in a final resolution adopted at the convention. The association went on record as recognizing "the need for a wide variety of experimental projects in teacher recruitment, teacher preparation, and the better use of teacher competencies" but warned that "all such experimentation and its evaluation be directed toward the end of fostering sound educational policies and practices, and not be based upon expediency to meet emergencies."

The resolution was, in part, an implied criticism of the Cooperative Study for the Better Utilization

of Teacher Competencies, co-sponsored by Central Michigan College at Mount Pleasant and the board of education in Bay City, Mich.

Does the resolution assume that only the curriculum expert has "sound" judgment regarding what constitutes "sound" educational policies?

And, by the way, since when has it become a crime to study ways of meeting emergencies?

Our thesis has three points: (1) The Michigan project is a timely, much needed study. (2) It is ethically financed and professionally conducted. (3) It deserves friendly help and suspended judgment from the teaching profession.

It is *timely*—if we are willing to face the fact that we are not going to have enough good teachers (or mediocre teachers, for that matter) to obtain a 25 to 1 teacher-pupil ratio for *all* classrooms within the next several years. Not when a million or more pupils are being added to the public school enrollments annually!

It is *ethically financed*—by a grant of \$250,000 from the Fund for the Advancement of Education. The Fund maintains no control over the nature of the research other than the requirement that it be concerned with the better utilization of teacher competencies.

It is *professionally conducted* under the direction of a national advisory committee. True, it is somewhat a homespun experiment doing practical things in a straightforward way, not couching its findings in the pedagogy of the research trade. It is being conducted without the advice of some of the "big names" frequently associated with research—unless, of course, you will agree with us that such members on the advisory council as Willard Olson, dean of the school of education at the University of Michigan; Eugene B. Elliott, president of Michigan State Normal College; C. L. Anspach, president, Central Michigan College, and Clair L. Taylor, Michigan state superintendent of public instruction, represent knowledge

and integrity that will keep the project on a sound basis.

Although the majority of the advisory group are professional educators, the project made the mistake (?) of putting a few nationally known lay leaders on the council, such as the general director of the American Association of University Women, one of the nation's highly regarded school architects, and a representative of the National School Boards Association.

The critics seem to be saying: "What right have laymen to form opinions or to evaluate facts about increasing the competencies of the teacher?"

Of course, this problem only vitally affects their children, their communities, and the safety and welfare of this country. Let them wait, the kibitzers say, for the "professional" experts to tell them how to get facts—and what to think about such facts.

It makes no difference that nearly all participants and hometown observers are enthusiastic about the experiment to date. Pupils, parents, teachers and administrators think the project is getting at solutions. But how could they know? They are just ordinary people and practical administrators. Can they understand sound educational policies?

* * *

LET'S take a look at our entire plan of grouping children. Let's look beyond the mere formulas of pupil-teacher ratio.

There is no mathematical process by which one can logically and automatically determine the appropriate pupil-teacher ratio for the classroom. Variable factors include:

1. The chronological age of the child.
2. The mental age of the child.
3. The emotional stability of the child.
4. The kind of teaching, whether remedial, guidance, solely imparting of facts, or directed physical activity.
5. The method of grouping, either by chronological age or ability.
6. The range, both of age and ability, within the classroom.
7. The physical setting for the class activity; whether the room is crowded, poorly ventilated, and poorly lighted or spacious, pleasant and healthful.
8. The instructional facilities, such as audio-visual aids, reading nooks, and work areas.
9. The ability and skill of the individual teacher.
10. The home training of the child, and the manner in which parents cooperate with the teacher.

Actually, there are some learning situations in which a demonstration or lecture may be witnessed or heard by as many as 100 pupils with as much effective learning per pupil as if the class were a much smaller group.

And there are other situations, such as the teaching of reading to a beginning group, where the teacher can handle no more than six or eight.

The number of pupils that one teacher can direct depends not only upon the characteristics of the child and the subject being taught but also upon the environment in which the teaching takes place and the nonprofessional assistance with which the teacher is provided. These are factors that the study in Michigan is exploring.

We need a little more realism and a little less emotionalism on the part of some of our theorists if we are going to serve society better. It may be paradoxical but it's true that, to get smaller classes in the primary grades, we must find ways in which some teachers can serve larger groups. Let no one think for a moment that the Michigan study or any other research of this nature seeks to handicap the teacher of the small child.

* * *

MEANTIME, the experiment has extended far beyond its original setting in Bay City and Mount Pleasant. In Michigan, there are now 25 different school communities participating in the work, each one contributing its own approach and seeking to find ways of improving teacher competencies in terms of local needs and facilities.

Similar studies are now being organized or planned outside of Michigan, and the staff anticipates that by fall from 10 to 15 school districts in other states will be conducting similar research.

The current study is operating wholly within the elementary school field, but preliminary studies have been made for a similar project on the secondary school level and a tentative proposal for a broad study has now been submitted to the Fund.

When the five-year study is completed—and not until then—it should be judged in terms of what it started out to do: "To find ways of making teaching a more professional activity." That time will be a little more than a year from now, when this original project comes to a close on July 1, 1957.

Not Dead Yet

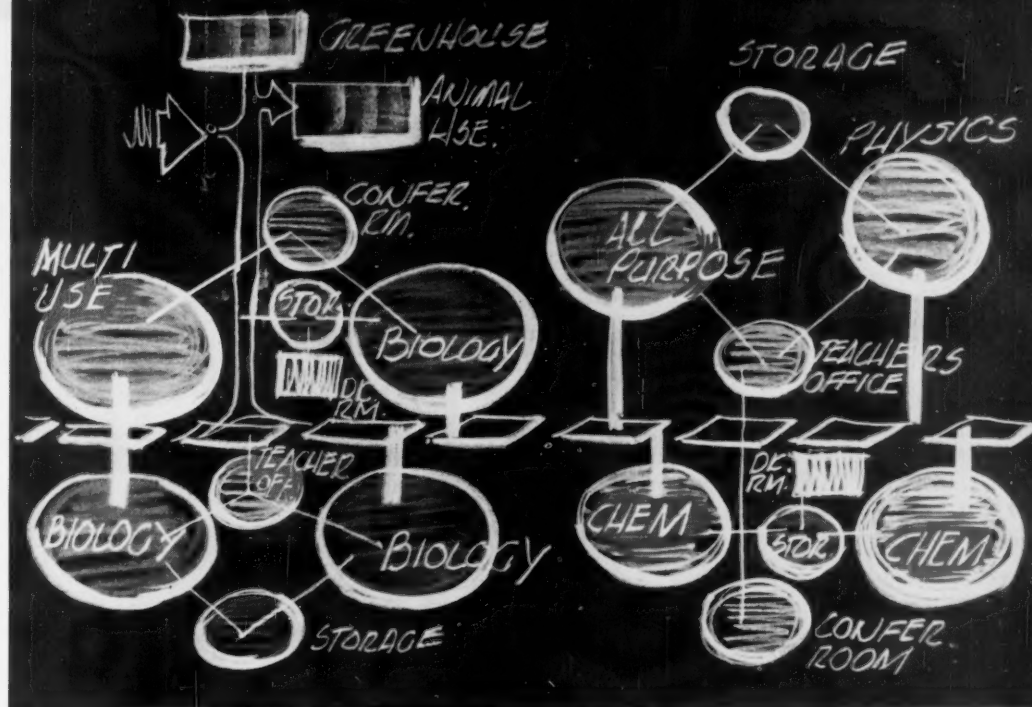
FEDERAL aid for schoolhouse construction from this session of Congress is a dead duck—if one believes the usual newsletters and confidential reports from Washington. The assumption is that fear of a vote on the Powell amendment will keep both the amendment and the aid bills in committees. The Powell amendment, if adopted, would deny funds to any state not complying with the Supreme Court decisions on segregation.

Advocates of both the Senate and House versions of the proposed grants say, "Don't be too sure." They are quietly lining up support, and they predict there will be a show-down soon, possibly before this magazine reaches its readers.

The Editor

The NATION'S SCHOOLS

Space relationships for the science departments of both new high schools in Cedar Rapids, Iowa. See Pages 66 to 78.



Science Education—for What Purpose?

JOHN McGRATH

Chicago

CHARGES that the teaching of high school science and mathematics is collapsing are finding their way with increasing frequency into all channels of communication. Many of the charges are prompted by good wishes. On others the stamp of selfishness is palpable.

In an effort to put the situation in focus, *The Nation's Schools* has made a comprehensive checkup on available literature as well as personal inquiry among science teachers at the elementary, high school, and college levels, at departments of teacher education, and of educators in general. This is what we found.

DURING the last five years the total number of college graduates has declined 39 per cent, but the number of those prepared to teach high school physics has slumped 74 per cent, says the American Association for the Advancement of Science. Only 249 men and women who had prepared to teach high school physics

were graduated from U.S. colleges and universities last spring. The A.A.A.S. estimates that only half of them are now on high school staffs.

This would mean that only 125 new physics teachers were available to replace those lost through death, retirement and resignation from the nation's 25,000 high schools* where enrollment—currently running well above the 6 million students of three or four years ago—is scheduled to hit 11 million by 1965.

The pinch is most severe in physics, but a similar situation prevails for other science subjects and mathematics.

"There is something more than a disinterest on the part of university students of science to teach in the high schools, and it may well be that those qualities within the student that attract him to science are the ones that make teaching at the secondary school level an uninviting chore," in the opinion of James G. Harlow of the University of Chicago.

*For denial of this statement, see Wire From Washington, page 120.

Social restrictions, student apathy, nonacademic duties, lack of intellectual stimulation, and the plain fact that there are more jobs open for persons with this type of training than there used to be were given as reasons for by-passing the high schools.

The U.S. Office of Education recently prepared a report on high school enrollments in science and mathematics "because of the feeling that statistics to emphasize the shortage are being quoted too loosely," asserts John R. Mayor, A.A.A.S. director.

"There is no question about a considerable decrease in enrollments percentagewise in these subjects in the secondary schools of this country. It is even indicated that enrollment in plane geometry, for example, was smaller by number of students during the last school year than in 1900," he said.

Meanwhile demand is vigorously on the ascendancy for technicians at the high school level and scientists at the college level. Present indications are that this trend will show acceleration.

Thus each year the gap widens between what is sought and what is available. Some doubt is expressed in academic circles as to whether the gap is as genuine as the insistent and well organized hue and cry of industry-government would indicate.

The fact remains, however, that the well is running dry, and we are beginning to miss the water.

And we are, moreover, missing it during the greatest blaze of scientific glory the world has ever known.

What, Where and How

EVERYONE agrees that something must be done to get the situation back in focus. But what and how and where to start?

The industry-government group, judging from the intensity of its present pressure campaign, wants the teaching of scientific subjects stepped up along a broad front, regardless.

Many educators agree that there is vigorous need to revitalize high school instruction along the scientific front. The need for improved quality of instruction poses such serious consequences for scientific and technological progress in the country that an immediate, coordinated, massive attack on the underlying causes seems essential. These observers point out, with equal emphasis, that there is need for a complete reappraisal of the entire field of public education and that it is impossible to evolve comprehensive and workable solutions for scientific education without intense study, experimentation and adaptations for the entire high school curriculum.

Meantime, the feeling is that everything that can be done should be done, but that the high schools should not be dedicated to the production of technicians in a peacetime economy, at the expense of other areas of instruction and guidance.

To get back to high school science teachers. Two questions arise:

1. Why are they leaving?

2. Where are they going?

Millions of words have been written, and almost as many reasons have been given, to explain why they are leaving the ranks. To sum up quickly and incompletely:

They want more money and they want more respect. They have need of both. It isn't clear which takes precedence, but if they get one they'll get the other. It may be that they are not the same thing.

There is no question about where they're going: primarily into industry and, to a lesser degree, into government. The present trend to merge the interests of industry and government (as reflected in the increasing number of liaison organizations) makes it difficult at times to determine just who is blowing the bugle. But blow it does. The teachers are not sneaking through the back door to other employment. A red carpet awaits them, at least temporarily.

"The shortage cannot help but affect unfavorably the rate of production of future scientists and the quality of their training" since "many students develop their interest in scientific careers at the high school level. Also adversely affected will be the knowl-

edge and appreciation of science by the general public," since "many students are formally introduced to the sciences during their high school years, and for a large number high school courses represent their only formal study of the sciences," according to the A.A.A.S. bulletin, "Science Teaching Improvement Program."

The report adds: "There seems little question that many individuals now teaching science in the high schools are inadequately prepared in the subject matter of science."

Our personal survey showed, as might be expected, shades of opinions on a variety of subjects. We also found outright disagreements. But on one point unanimity was complete:

There is basically nothing wrong with American public education that more money wouldn't remedy.

The number of teachers must be substantially stepped up. Those we have and the new ones we must get will have to receive more money than is now paid.

There was a prevailing, but not unanimous, thought among those interviewed that we must approach the situation in the realistic manner that the military forces and heavy industry lay their cards on the table, i.e. demand that society produce the money now before it's too late. The stakes in public education are at least as high.

Contradictions

OTHER observations, some of which are partially contradictory:

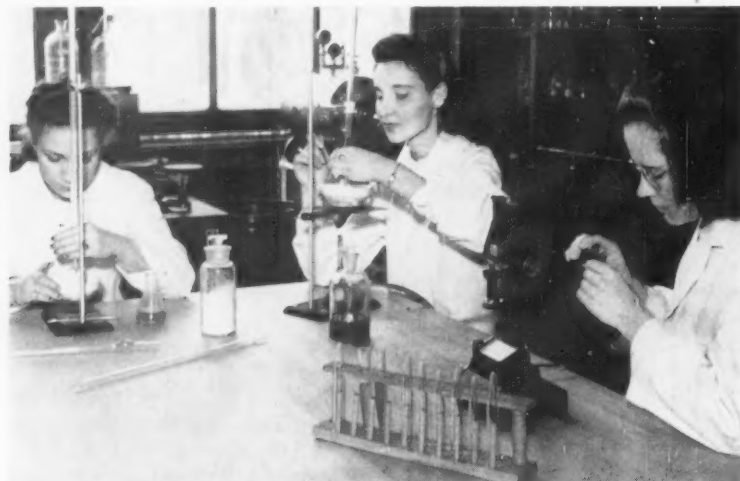
1. Extraordinary expansion of the high school curriculum has made it too easy for the student to duck the "hard" courses. He has to take mathematics to get into the better colleges, but not much chemistry or physics.

2. Neither physics nor chemistry should be required in the high school, but once a student has enrolled by his own selection he should be encouraged up to his limits by having pointed out to him the expanding opportunity for employment in the electronic and chemical industries.

3. If nonteachers are brought from industry into the schools to teach science, they should have a college degree and at least one fundamental course in education or its equivalent.

4. If high school science students are to be taken in large numbers into industry during the summer months it must be done with the understand-

Basic training for scientists, science teachers, or consumers.



Photographs by courtesy of Chicago Board of Education

ing that they will return to school in the fall.

5. Ability grouping, particularly in the sciences, is commended if the schools are to perform their full function for both the superior and the normal student.

6. Teaching aids, television, et al. can be helpful if they are carefully edited and correctly used.

7. All interviewed felt that there is need for more men, *for the presence of men*, not only in the high schools but also in the grades. Men can't afford the jobs. Therefore, since they are needed *and cannot be substituted for*, men should get more money than women do for the same jobs, said several with whom we visited. Others, but by no means all, of those interviewed felt that the same logic should be applied to *science* teachers, men or women.

Discussing a Smith-Hughes vocational agriculture bill in the field of *science education*, Dr. Mayor expressed the opinion that such a bill will be introduced in this session of Congress and said:

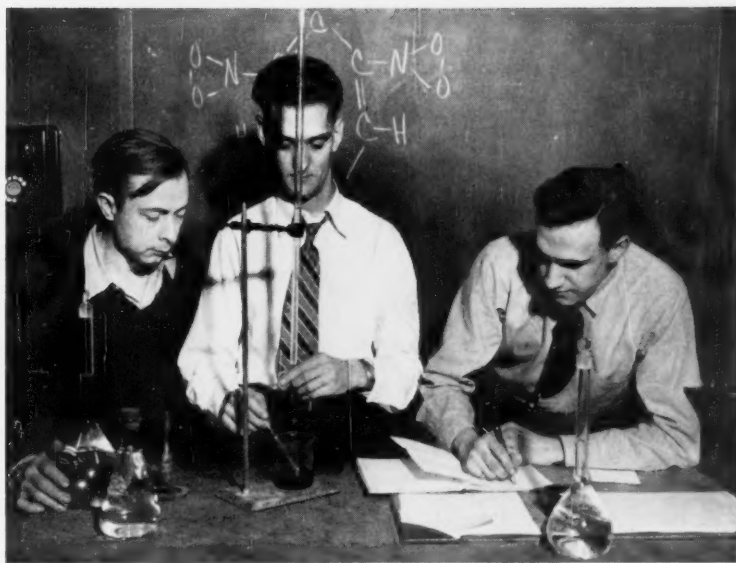
"I am not prepared to say what stand the A.A.A.S. will take on this bill. In general we would not favor such an approach. We are particularly anxious that science and mathematics teachers not be put in a special category. However, if raising the salaries for science teachers, even though it be through federal subsidy, would result in raising *all* salaries for *all* teachers, then the A.A.A.S. may support the bill."

The New Concern

THE new concern about public education is expressed almost exclusively by an industry-government group and applies, again almost exclusively, to the supply of technical and scientific manpower in the field of physical sciences and their applications.

It all goes back to 1947. At the close of World War II, Vannevar Bush, then director of the Office of Scientific Research and Development (which organized the nucleus which later became the Manhattan Project, developer of the atomic bomb), published a report called "Science—the Endless Frontier."

This, in turn, was followed by the report of the President's Scientific Research Board, sometimes referred to as the Steelman Report. Issued in 1947, this paper comprised the first



Where future science teachers are being educated, industry and government are competing to offer employment to the graduates.

major effort to define and stress the dependence of the United States upon the activities of scientists and engineers for military and economic security.

Out of this came the establishment of the National Science Foundation, the nation's first explicit concern with the care and feeding of scientists.

From then on the snowball started rolling. A recent investigation by the U.S. Office of Education reported 21 agencies operating on a national basis in studies of science and technical manpower.

Two questions arise in the minds of many scientist-educators in the present peacetime emphasis upon creating a stockpile of technicians and scientists through the efforts of public education.

1. Would such concentration of talent result in a supply sufficiently fluid to keep salaries and wages at non-emergency levels?

Industry's traditional adherence to the law of supply and demand is making some science-educators wonder why it isn't followed in the present instance. The less dedicated among them are fighting down a suspicion that industry will hire more scientists and technicians than it needs *at the present price level*.

Commenting last year before the Military Industrial Conference on the difficulties which company representatives encounter in seeking technical graduates for employment, Leverett S.

Lyon, chairman of the executive committee of the Chicago Association of Commerce and Industry, said:

"Speakers reported that one large manufacturing company had expressed a willingness to take all of this year's graduates of one outstanding engineering school; that, running short of students to employ, interviewers hired faculty members; that at one technical gathering more interviewers than candidates for positions appeared, and that the interviewers were presently trying to employ one another!

"It appeared that the only technic which these interviewers had not employed, in desperation, was raising their own salaries."

2. Do these planners, these mobilizers of human resources and talent, visualize a single purpose society in which consideration for industry—in peacetime—will transcend all other aspects of the human enterprise? If so, wouldn't it seem to be a dangerous toy to be playing with, particularly in times like the present?

The possibility of such a trend is particularly worrisome to educators when it is recalled that pressure for curriculum changes in the public schools as well as in the colleges and universities is coming from a powerful group with access to all means of communication and with a vast proportion of the nation's instruments for the molding opinion at its disposal.

"Because of the interest of government particularly, well supported by

industry, special attention in all communication media has been given to the situation in science" in the schools, Dr. Mayor told the American Association of Colleges for Teacher Education.

"Actually," Dr. Mayor said, "what scientists would like from the public schools is in close agreement with the desires of academic people in the other areas. There is indication that there will soon be a more united front among the academic group."

He said that some of the things the academic people "seem to think they want" in public education are:

1. Less emphasis on life adjustment and needs "as seen and interpreted by the pupil and more emphasis on the value of the ideas which make our civilization great and on which significant life achievement [as they see it] can be based."

2. Students better prepared for college, and more desire on the part of the more capable to go to college.

3. At least equal recognition for scholarly achievement with athletics and other extracurricular activities.

4. "Less fear of ability grouping."

5. A better school program for the more gifted, say the upper 40 per cent, with an emphasis on study and scholarship for its own sake and special effort to create a love of learning.

6. Teachers with status as scholars in their schools and communities.

7. Teachers better prepared in the subjects which they teach and in-service programs which help them keep up with subject matter.

8. A situation in which they can "with good conscience" recommend that their best students go into secondary school teaching.

9. More active participation on their part in teacher education programs.

10. "The granting of emergency certificates, if this practice becomes necessary, with emphasis on subject matter rather than professional education."

"Many academic people know, first of all," Dr. Mayor continued, "that they can best achieve what they want by working with professional educators and classroom teachers much more than they have ever done before, and they also know that, if they do this, they will be much more sure whether what they now think they want is reasonable."

It is true that enrollments in physics and chemistry in the high schools are

For views on science teaching from the nation's capital, see Wire From Washington (p. 120). What the nation's science teachers themselves think will be found in the report of their recent convention on page 90.

low, but this is by no means new. Physics hit its percentage peak in 1895 and chemistry in 1890. More than 20 years ago physics enrolled only about 6¼ per cent and chemistry 7½ per cent of the high school population against a Nineteenth Century top of 22.7 and 10 per cent respectively.

Even in 1934 fewer than 60 per cent of the secondary school population was enrolled in all the science courses. This compares with 95.5 per cent in 1895 when fewer types of science courses were offered.

These figures take on a significance, touching on bewilderment, when it is recalled that the decline in high school interest in the physical sciences was, and is, contemporary with an outburst of scientific achievement that is fabulous.

Things to Be Done

THERE are some things that can be done, and are being done, to improve instruction, stimulate interest, reassess teaching values, and, in general, vitalize the approach to this area of instruction. These include the following seven-point program of the A.A.S.S.

1. **Stepped-up responsibility** on the part of scientists themselves who could see to it that college departments of science:

- a. Examine and frequently improve undergraduate courses and major requirements from the standpoint of their appropriateness for future high school teachers.

- b. Work with department of education and state officials to revise certification requirements so as to place greater stress on subject matter preparation of prospective teachers.

- c. Develop courses suitable for high school teachers in summer school which are designed to get them a master's degree (and therefore an increase in pay) in their own field.

- d. Lend a departmental staff member to a neighboring high school to

offer advanced instruction in science for a selected group of students.

- e. Support and sponsor conferences at which college and high school teachers may exchange information.

2. **Emergency measures** should include the arranging of special accelerated programs in education for senior undergraduate students who wish to qualify for teaching positions before the beginning of the next academic year.

3. **Recruitment for the future** requires not only the preparation and dissemination of guidance materials and vocational programs through radio, television and assemblies but also the utilization of scientists and engineers as counselors, as well as the encouragement of high school science clubs, fairs and junior academies of science.

4. **Study** should be given to unusual ways in which science teaching can be made more attractive financially: summer employment in science related industries or additional pay for directing student research projects and similar activities.

5. **Investigate the effectiveness** of teaching assistants and of such instructional aids as motion pictures, radio and television in increasing teaching efficiency and providing more attractive working conditions.

6. **Complete plans** to institute an annual program of awards to outstanding high school teachers in an effort to build up the prestige of science teaching.

7. **Employ regional expert consultants** to tutor, assist and serve as a source of information and help to the less experienced and less competent science teachers in a given area.

These suggestions can go a long way in shoring up the present foundation of science instruction in the high schools, but they are not basic.

The big job is to assimilate the enormous scientific and technological development of the past half century, the magnitude of which cannot yet even be closely estimated.

When this gigantic task is surveyed, the general categories outlined, and great scrutiny given to its educational approach and to its importance in the over-all endeavor of man, we can then begin to answer today's problem: What and how much science should be given, and under what conditions should it be taught in the high school program? Next month we shall pursue the subject.

The administrator's job is opening doors.

Some open readily; others resist.

Many can be opened with these



SEVEN KEYS TO LEADERSHIP

WORTH McCLURE

Executive Secretary, American Association of School Administrators

IT'S a poor superintendent who doesn't occasionally find himself hemmed in by problems. Every problem situation is studded with doors that are hard to open. Yet if the superintendent's leadership is to go any place, open them he must. It would oversimplify things to say that every one of these closed doors has its own key or that there are some keys which must open every door. Yet it is true that there are some master keys that have persuasive powers and will open more doors than others. Here are seven of them:

1. Every school should make a *difference* in its community.
2. The administrator is a *social engineer*.
3. The administrator is a *teacher of teachers*.
4. The administrator is a *vicarious teacher of pupils*.
5. The administrator *is* responsible for the success of his school.
6. The administrator is concerned with his teachers as *individuals*.
7. The administrator *himself* must grow personally and professionally.

Every school should make a difference in its community. Here is one of the newer concepts that are emerging in this quarter-century. What kind of difference should the school make? Schools ought to make a difference in the health and sanitation of the community, in its literacy, in its culture; they ought to raise the living standards by developing the economic resources. In the effort to enhance appreciation of spiritual values, the schools should make com-

mon cause with idealistic agencies in the communities, such as the churches. Finally, schools should corner active participation in civic affairs. How shall this be done?

It was done in one underprivileged community of small homes where the principal arranged for the landscaping of a particularly offensive cinder slope that marked the edge of the school grounds and overlooked the unkempt homes. Covered with soft grass and outlined by colorful flower gardens, the slope was a powerful silent salesman all by itself. Given status by being shared in some fashion by every class group in the school, it became vocal in every home. Before long small lawns and flower beds began to be noticeable around a few homes. Eventually, planting lawns and flower beds became "the thing to do" in that community.

Coordinating committees in many western communities have been formed at the initiative of school principals. These committees usually represent such interests as veterans' groups, service clubs, local civic and community clubs, churches, lodges, law enforcement agencies, and, foremost among the others, the local P.T.A. Such committees deal constructively with community conditions that affect children. Meeting regularly they keep one another posted about such conditions and bring influence as individual organizations or as a committee when improvements are needed.

One lovely home community was threatened with becoming a "ghost town." Valuable timber which had sustained it had all been cut. Mills

and logging camps had closed. But before all was lost an alert superintendent of schools teamed up with a chamber of commerce. Experts from the state college and state resources board were brought in. A study of remaining soil and climate resources was undertaken. Who staffed it? High school students and teachers. It didn't happen overnight, but now that town is the center of a thriving berry and small fruit industry and a dairy industry of more than local significance.

Please note that the school leader took the initiative in each instance. Some guidelines: Start where the community is. Do not attempt to begin where somebody thinks it ought to be. Take the simplest problem first. Work cooperatively with parents, other citizens, and the agencies that can be of help. They can all cooperate with the school, often the only agency that could bring them together.

The administrator is a social engineer. How does the administrator proceed as a social engineer? Here are some ideas:

He studies the community with his teachers and lay leaders.

With the help of others he shapes the school program to meet the special needs of his community. This may mean locally some special emphasis on some parts of the course of study, or perhaps consultation with superior authority seeking permission to modify the course of study. It may include an all-over study by teachers and community.

He uses consulting experts and employs all the community resources

available. In many communities local people can help either in the classroom processes themselves or in the community at large.

He cooperates with other constructive agencies in the community. He realizes that the school is not the only agency interested in community advancement and that the school even if it wished to do so could not do the job by itself.

The administrator is a teacher of teachers. How does he teach? Here are some ways:

He discovers and develops the latent abilities of his staff members. That means he must "emphasize the positive." Here is how one principal missed the boat:

He worried because one of his teachers misspelled words on the blackboard but ignored the creative artwork which she and her pupils accomplished. After a year or two in his school, this teacher transferred to another school system. There she became known as an outstanding specialist in art and eventually was given the post of assisting other teachers. With the best of intentions, the first principal failed to discover and to develop the latent abilities that this young woman had.

He not only looks for talent and ability, but he is conscious of possible weaknesses, because he desires to be of assistance. His objective is to help the teacher become more competent. If she has problems his objective is to help her overcome them. Of course, in order to do this he needs to know what good teaching is. That means he must get out of his office, get into classrooms, see good things, become sensitive to the good things that are worth emulation by other teachers. Not that he gives Miss A a blueprint of something he picked up from Miss B. Far from it. He may suggest Miss A visit Miss B, or he may make other suggestions. But always he is willing to let Miss A work out her own salvation with such help as he and the experts whom he may be able to call in can provide.

He uses teachers in planning how his school or his school system may be improved. Twenty-five years ago or even 10 years ago this idea would have been regarded as revolutionary. Today it is becoming recognized as the thing to do. Make no mistake, it is not the easiest way to run a school or a school system. Probably it is

the most difficult, because it involves learning new ways of doing things. Cooperative planning is best, but not merely because it is the "democratic" way. It is the most practical way. Some superintendents and principals might be surprised to know how many things their teachers could tell them—things they ought to know—about their schools. Teachers have ideas—some of which are good—as to where and how improvements may be made. *Warning:* The superintendent or principal who has not been doing this should start on a small scale; that is, take some minor problem and informally ask teachers' advice. Always when trying something radically new it is best to make mistakes on a small scale—and, superintendents being mortal, mistakes are likely.

He brings expert assistance to teachers who need or who desire it. This should be self-explanatory, but sometimes principals and superintendents do not recognize that they are responsible for providing help for teachers who need or desire it. Sometimes this expert assistance comes from the county superintendent's office. Sometimes several reorganized districts join forces and pro-rate the cost of such services. Sometimes agencies outside the schools may help.

Teachers meetings are devoted to everyday problems, often problems suggested by the teachers themselves. From discussing these problems new understandings develop and the application of principles and laws of learning previously studied become clear. The teachers meeting that is not afraid to start with practical problems never has to be "vitalized."

He is human and considerate with his teachers. That is, he respects them as human beings. He is a good visitor when he comes into the classroom. A few years ago a superintendent asked each member of a committee of teachers to give him two short lists. First he wanted each to name the three things which principals or superintendents had done that were most helpful. Second, he wanted to know the three things which principals or superintendents had done that were most harmful.

What led the list of the most helpful things? Personal friendship and loyalty. Teachers prized the feeling that even if they made mistakes the principal or the superintendent was still their friend. He might tell them brutally where they had made mistakes

but he did it in the privacy of his own office without an audience. And then he forgot about it. He was still a friend.

Among harmful things, the thing that led all the rest with these teachers was his taking notes in the classroom while he was visiting. Now why did teachers dislike his taking notes? Simply because they thought notetaking meant they had done something wrong. They kept wondering what they had been doing wrong with the result that they had trouble keeping up with whatever was going on in the classroom. Many superintendents and principals have been guilty of this. Often they were merely writing a note to themselves about something they needed to do when they got back to the office. But, of course, the teacher didn't know that.

Here is another harmful thing. Going into a classroom, listening attentively for a time, then leaving without even so much as a nod to the teacher; sometimes failing to mention the matter to the teacher again. Teachers are human; they want to know. Among the helpful things that superintendents and principals have done were to give a friendly nod upon leaving the room, possibly to whisper: "Fine work, I'm proud of you," or something to let the teacher know that she at least had not committed some fearful pedagogical crime. The study showed that even the best teachers feel that way. They too relish the occasional pat on the back, and it shouldn't be given too far down either.

The administrator is a vicarious teacher of pupils. What about the word "vicarious"? It means that he works through the personality of another human being. The teacher-pupil relationship is easily seen in the one-room school. There the relationship is direct. But when the school is expanded to include a second, third, fourth, fifth, sixth, seventh and eighth room usually there is a principal. Now the relationship becomes indirect, and the principal must recognize that even though there are teachers in charge of the other classrooms he still has the same responsibility that he would have had if he had been the only teacher. The manner in which he discharges his responsibility is different, of course. But he has the same responsibility to see that every one of the children under his direction receives good instruction in the classrooms.

Without this key to leadership are those few principals or superintendents who are inclined to pass the buck to the teachers as though, if things were not going well somewhere, they could do nothing about it themselves.

Here are some of the ways in which the administrator serves as a teacher of pupils.

1. *He takes every child seriously.* It happened in a primary room in an underprivileged neighborhood. It was in the spring of the year. The children were making plans to dramatize something which they had read and liked about a May queen. The teacher said, "Who would like to be queen of the May?" And a little ragamuffin about whom the principal knew, the child of a home where the parents in some ways were not worthy to have a child, raised his hand with beaming face and said, "I would, I would!" "Ho, ho, ho," cried the teacher, "little Joe wants to be queen of the May. Isn't that a good joke, boys and girls! Why how could Joe be queen of the May because he is a boy? We are going to laugh at you, Joe!"

Little Joe's face was a picture of tragedy. Tears welled into his eyes, ran down his face. He had been humiliated before his equals by a thoughtless teacher. Give us teachers and principals and superintendents who take every child seriously even if some dirty little boy wants to be queen of the May!

2. *By example and precept, he sets the pattern of the school life.* He looks for the gifted pupil and encourages him. He helps teachers who have difficulties in working with pupils who have difficulty. He helps build in each pupil a love of the good and beautiful and the true. That's the way the school strives to inculcate what are called moral and spiritual values. With his teachers he plans for a school life that will emphasize good sportsmanship, honesty, self-reliance, integrity, cleanliness, courtesy and all the rest. There will be good pictures, bright colors in the classrooms, good music as part of the life of the school so that it becomes a part of the child.

He with his teachers strives to give every pupil a chance to share responsibility for improving the school and the community. That means pupils taking part in planning things that are within the limits of their understanding. Some pupil planning may be done even in the kindergarten. There can be, of course, a great deal more plan-

ning done by the students in a high school.

Seattle schools turned the problem of Halloween vandalism over to the high school students. Some folk thought the superintendent demented for being so rash, but the results were convincing. The very first year vandalism was cut 90 per cent. We teach the privileges and duties of an American citizenship; we seek to inspire zeal for protecting the rights of others and promoting the general welfare. We need to supplement teaching with practice.

The administrator is responsible for the success of his school. It seems perfectly obvious that every leader should have this key, doesn't it? And yet, unless he has that feeling of responsibility, a good many doors will be left closed. Possessing it, he sees good teaching as his primary responsibility. Consequently he strives for good working conditions for his teachers. Teachers like loyalty and thoughtfulness. If he possesses this key, the administrator will provide his teachers with the best working tools he can obtain — books, supplies, equipment. Sometimes the provision of even some slight equipment device or a special book or two makes a tremendous difference in the morale of a teacher.

There is another side to this, too. Teachers like schools that are well organized. Among the things which the aforementioned teachers committee listed as detrimental were classroom interruptions. The principal and the superintendent have no business to be so disorganized themselves that they must interrupt classrooms frequently in order to make announcements or to have announcements made. There should be a regular period in the day for these, and what is forgotten today should be saved for tomorrow, barring emergencies, of course.

The administrator is concerned with teachers as individuals. In the spirit of these times it is possible that some might say that the most important ingredient of a school administrator's character is "liking people."

The administrator must never lose sight of the teacher as an individual and a human being. So, of course, he is concerned with the growth of each teacher as a person. He strives to make it possible for teachers to travel and visit, to take university courses,

to seek new horizons. Human beings somehow have to get out of their own little valleys and see the rest of the world if they are to be the kind of people that today's teachers ought to be. Through personal growth teachers also grow professionally.

The administrator looks for talent, tries to give talent a chance to try its wings. He must know his teachers well enough so that he can communicate with them freely. He is generous with praise when it is deserved. He doesn't hesitate to praise the superior teacher even though he thinks she probably knows she's good. She may be discouraged today! He praises the good teacher and has a word for the teacher who is struggling with difficulties, a word of encouragement. He never fails to give the teacher who develops a new idea plenty of recognition. The administrator not only must provide the climate conducive to growth, he must furnish soil, which means good pay, good equipment, and loyal backing before the public. Often this is his most difficult task.

The administrator himself must grow personally and professionally. Need for this key seems axiomatic, doesn't it? How could the leader be legitimately concerned with the growth of other people unless he is concerned about wider horizons for himself? Yet sometimes administrators become so overwhelmed by detail that they leave many doors closed. Of course, every administrator must be able to organize a school so it will operate smoothly. He must be a master of detail, but he must not be mastered by it. The principal who, when given secretarial assistance, merely does more clerical work than he did before instead of lending his inspiration, encouragement and assistance to his pupils and teachers has ceased to grow. For him unhappiness ahead!

The administrator who is concerned about his own personal and professional growth must come to realize that true happiness depends on growth. It never comes when sought directly. If it seems to come, it is gone like the will-o'-the-wisp the moment somebody says, "Here it is." Nathaniel Hawthorne wrote that happiness usually comes unexpectedly, when mortals are pursuing some other objective. That's in line with what a very wise man once said, "A cynic is a person made ignorant through experience." Find the administrator or teacher who

has ceased to grow and you find an unhappy person.

It is human nature to become less and less active as one becomes more comfortably adjusted to his tasks. So the school administrator who would stay fresh must continue to open new doors. Different people do this by different means. One way to do it is by travel; other ways to keep professionally up to date are by reading professional books and magazines, by taking part in educational workshops and conventions, by visiting other schools in search of new ideas. The superintendent may join a study group

where he and fellow administrators compare notes about their mutual problems and share helpful experiences. Of course he is a member of his state education association, his state administrators' organization, and A.A.S.A.

In today's world the school administrator is more important than a general in the army because he is a leader of the fresh army of school children—the army of peace that every year takes over the schoolhouses of the nation. He is often the man behind the general, the statesman, the poet, the artist. Opinion studies made in commu-

nity after community show that the school superintendent is often regarded as the most important person. Many school superintendents are elected citizen of the year by their communities.

The administrator's job is opening doors—always more doors to open. In a dynamic society like ours where schools and school programs are born of tensions and conflicts, it must always be so. Some doors open readily, others resist. But the leader must make them open either through his own efforts or those of others. That is why keys are important, especially keys that open many doors.

Finding and Keeping Teaching Talent

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WHAT qualities tend to lead to effective teaching careers? Which of these can be identified, and how, in early years?

As the wording of these questions makes clear, we do not aspire to certainty in predicting great teaching. But are there minimum qualities which can be identified and which lead to better than average teaching?

I suggest that the following are central enough to effective teaching to warrant close attention:

1. Intellectual competence — an orderly, creative mind, keyed to the search for the significant, not simply the novel or interesting.
2. A sturdy personality, and character and integrity beyond question.
3. The quality of independence.
4. A high level of physical vitality and energy, and the "self-starter" habit.
5. Enthusiasm, especially for creations of the mind and spirit.
6. A positive, affirmative attitude, as a result of which the individual usually looks at a problem in its largest terms, rather than becoming pre-occupied with the small and negative aspects.

Abstracted from a paper presented at the National Conference on Higher Education, Chicago, March 1956.

These are intangible qualities which may be harder to identify in youth than in maturity, but the task is not hopeless.

What are the necessary conditions for the continuing and satisfying development of an effective teacher? If a teacher and his profession are well met, he will not want to leave it for another occupation. Yet many do. Why? It is this retention problem that interests me. Based on my own limited experience, several aspects seem important:

1. The school must recognize that it has a responsibility for the professional development of its faculty members. This is both an obligation and a selfish interest.

2. The school should make it clear that it expects continued growth and professional development.

3. Levels of compensation must, of course, be attractive. Progression within the scales should be selective enough and rapid enough to encourage exceptional effort and ability.

4. There must be opportunities for creative work not immediately and directly related to teaching.

5. Personnel policies should contribute to the professional advancement of even those individuals who

are not permanent members of the institution's staff.

One final observation: Not all of those who enter the profession should stay in it. Individuals as well as institutions make mistakes. I suggest that the senior, experienced members of the profession have an obligation to help identify the young teachers who should be in another occupation, to do so before permanent tenure is granted through their participation in their school system's personnel processes, and to see to it that the misfits do not become permanently imbedded in the profession. This is important in many and obvious ways, and I presume that it is not necessary for me to elaborate it.

PROBLEMS CAN BE SOLVED

For me, no other occupation offers the greatness of satisfaction and of privilege that is the essence of our profession. I came to this point of view by knowing a few wonderful human beings who happened to feel that way about their profession. If dedicated teachers impart this sense of value to their students, I believe that all of the problems of identifying, motivating, recruiting and retaining teachers can be solved.

Bright notes—and dark—as

Teacher Shortage Trend Is Reversed

RAY C. MAUL

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A FIVE-YEAR trend has been reversed. It is likely that from now on the number of newly qualified teachers coming from the colleges will increase steadily, although not at all as rapidly as the need for more teachers will grow.

The Class of 1956 will contain almost 100,000 new qualified teachers ready to enter classroom service next September. The exact figure—96,097—is nearly 10 per cent greater than the 87,409 members of the Class of 1955 who met the requirements for the standard teaching certificate. Most of the increase is in the group prepared for high school teaching—57,348 compared with 49,697 a year ago, an upturn of 15.4 per cent. The number of college graduates prepared for elementary school teaching will increase only about a thousand—from 37,712 to 38,731, up 2.7 per cent.

REVEALING STUDY

A study of college records since public school enrollments started to increase at the end of the war is revealing. First, it must be noted that trends in the total number of students graduated by the colleges and universities tend to lag some three or four years behind the trend in total higher education enrollments. College enrollments increased substantially in 1953, exceeded all past records in 1954, and then set another new record in September 1955. But bachelor's degree recipients have dwindled steadily since 1950.

The total number of college graduates, after a slow increase from the mid-Thirties, reached a peak of 187,000 in 1940, then fell abruptly to 126,000 in 1944. Then came the sensational increase to a total of 434,000 in 1950, to be followed by a steady

year-by-year decline to 287,000 in 1955.

But these figures do not tell the whole story for school administrators. The chart shows that the *number of women* graduated from college changed only a little from 1938 to 1946 and that, after a substantial increase in 1948, this total has ranged right around the 100,000 mark for almost 10 years. Meanwhile, the *number of men* graduated from college jumped from 58,000 in 1946 to the unprecedented number of 330,000 in 1950 and has since steadily declined to 187,000 in 1955. It becomes clear that the makeup of, as well as the total number in, a graduated class becomes significant to the employer of teachers in view of the fact that three of every four public school teachers are women.

Unhappily, records concerning the number of college graduates who were prepared for teaching were not assembled prior to about 1950.* A review of available records, however, brings to light two developments of peculiar significance to the employers of teachers. The first is this: Since 1950 the total number of college graduates has decreased by one-third, the total number of college graduates prepared to teach in high school has decreased correspondingly—34 per cent—but the total number of college graduates prepared to teach in the elementary schools *has increased more than one-third—35.5 per cent!* This phenomenon can only be explained by the growing realization on the part of the public that the competent elemen-

tary school teacher must, first of all, be a broadly educated person. The widespread acceptance of this concept, together with the strengthening of certification requirements, is probably the distinguishing characteristic of the postwar era. The year-by-year changes are shown in the accompanying table.

LESS ENCOURAGING NEWS

Another, and less encouraging, factor is also shown in this table. It points to perhaps the most glaring weakness of counseling at both the high school and college levels, namely, the maldistribution of newly qualified high school teachers among teaching fields. The figures show conclusively that college students intending to become high school teachers choose their major fields almost wholly without knowledge of (1) the number of opportunities, and (2) the amount of competition in the various high school teaching fields.

These facts point up the case for a better counseling program: In the Class of 1950 there were more than 15,000 members prepared to teach social studies and more than 10,000 prepared in men's physical education, but only 9000 in science, even when those majoring in general science were combined with those majoring in biology, chemistry and physics. Superintendents, as well as college placement officers, will remember that the distribution of newly qualified candidates for teaching in these fields was completely out of line with the needs in 1950; social science and men's physical education majors were in considerable oversupply, but the number of new science teachers scarcely equaled the demand.

And what is the year-by-year record since 1950? The table shows that this

*The first in the series of annual national teacher supply and demand studies was conducted in 1947-48. The ninth annual national report appeared in the March 1956 issue of the *Journal of Teacher Education*.

Total Number of College Graduates; Number Prepared to Teach in Each High School Field; Number Prepared to Teach in Elementary School; per Cent of Year-by-Year Change, 1950-56

College Graduates	1950	1951	1952	1953	1954	1955	1956
1	2	3	4	5	6	7	8
RECEIVING BACHELOR'S DEGREES.....	433,734	384,352	331,924	304,857	292,880	287,401	Not available
CHANGE FROM 1950.....		-11.4%	-23.5%	-29.7%	-32.5%	-33.7%	
PREPARED TO TEACH IN HIGH SCHOOL:							
Majors in ART.....	2,225	2,296	2,249	2,019	1,856	1,930	2,219
Change from 1950.....		+3.2%	+1.1%	-9.3%	-16.6%	-13.3%	-0.3%
Majors in HOME ECONOMICS.....	4,899	4,640	4,648	4,282	4,212	4,025	4,541
Change from 1950.....		-5.3%	-5.1%	-12.6%	-14.0%	-17.8%	-7.3%
Majors in MUSIC.....	5,296	4,652	4,882	4,641	4,323	4,499	4,825
Change from 1950.....		-12.2%	-7.8%	-12.4%	-18.4%	-15.0%	-8.9%
Majors in WOMEN'S PHYSICAL EDUCATION.....	3,178	2,562	2,607	2,485	2,440	2,496	2,773
Change from 1950.....		-19.4%	-18.0%	-21.8%	-23.2%	-21.5%	-12.7%
Majors in COMMERCE.....	7,235	5,750	5,165	4,571	4,076	4,434	5,544
Change from 1950.....		-20.5%	-28.6%	-36.8%	-43.7%	-38.7%	-23.4%
Majors in FOREIGN LANGUAGE.....	2,193	2,133	1,859	1,519	1,368	1,328	1,489
Change from 1950.....		-2.7%	-15.2%	-30.7%	-37.6%	-39.4%	-32.1%
Majors in SOCIAL SCIENCE.....	15,349	12,178	9,406	8,149	7,227	7,572	8,923
Change from 1950.....		-20.7%	-38.7%	-46.9%	-52.9%	-50.7%	-41.9%
Majors in MATHEMATICS.....	4,618	4,118	3,142	2,573	2,223	2,155	2,600
Change from 1950.....		-10.8%	-32.0%	-44.3%	-51.9%	-53.3%	-43.7%
Majors in ENGLISH.....	10,709	9,461	8,211	7,166	5,278	5,507	5,924
Change from 1950.....		-11.7%	-23.3%	-33.1%	-50.7%	-48.6%	-44.7%
Majors in INDUSTRIAL ARTS.....	4,890	4,284	3,161	2,570	2,201	2,177	2,658
Change from 1950.....		-12.4%	-35.4%	-47.4%	-55.0%	-55.5%	-45.6%
Majors in MEN'S PHYSICAL EDUCATION.....	10,614	8,179	6,546	5,416	4,834	4,794	5,633
Change from 1950.....		-22.9%	-38.3%	-49.0%	-54.5%	-54.8%	-46.9%
Majors in SCIENCE.....	9,096	7,507	5,246	4,381	3,641	3,754	4,434
Change from 1950.....		-17.5%	-40.3%	-51.8%	-60.0%	-58.7%	-51.3%
Majors in AGRICULTURE.....	3,294	2,404	1,891	1,601	1,541	1,430	1,579
Change from 1950.....		-27.0%	-42.6%	-51.4%	-53.2%	-56.6%	-52.1%
TOTAL PREPARED TO TEACH IN HIGH SCHOOL.....	86,890	73,015	61,510	54,013	48,916	49,697	57,348
CHANGE FROM 1950.....		-16.0%	-29.2%	-37.8%	-43.7%	-42.8%	-34.0%
TOTAL PREPARED TO TEACH IN ELEMENTARY SCHOOL.....	28,587	33,782	37,649	37,430	36,885	37,712	38,731
CHANGE FROM 1950.....		+18.2%	+31.7%	+30.9%	+29.0%	+31.9%	+35.5%
GRAND TOTAL PREPARED TO TEACH.....	115,477	106,797	99,159	91,443	85,801	87,409	96,079
CHANGE FROM 1950.....		-7.5%	-14.1%	-20.8%	-25.7%	-24.3%	-16.8%

(This table does not include students meeting certificate requirements at 90, 60, or 30 hour levels)

lack of balance between supply and demand has been further extended—that the sciences have lost more rapidly than any other high school teaching field except agriculture. Meanwhile, American industrial life has expanded its demand for engineers and all kinds of scientists at a more rapid rate during the last five years than at any other time in our history.

But a study of the figures showing the number of college graduates who will become eligible to enter teaching next September tells only half the story. We must now ask these questions: Do the local school districts have the resources to compete successfully for the services of this new group? Can these young people be attracted to the teaching profession in the face of other employment opportunities which will be open to them?

The best available evidence points to the probable loss of just about one-third—33,000—of these new potential

teachers at the very moment they will become available. In the high school fields of greatest shortage the loss will probably be at least 50 per cent; at the elementary school level it may be held to 20 per cent.

IS THIS 65% EFFICIENT?

Why this loss? It is unthinkable that any other occupation requiring four full years of college preparation would suffer in this manner. Yet it continues, year after year, as we redouble our efforts to stimulate the interest of high school graduates in entering the four-year course of teacher preparation. A hard headed business man would say that we are no more than 65 per cent efficient in the routine process of recruiting, training and inducting into service.

The reason, of course, is clear. It is not because there is an insufficient number of personable young people interested in teaching. It is not be-

cause the four-year program of pre-service preparation fails to spark the imagination and enthusiasm of the student. *It is* because the salaries offered in other occupations pull away the college graduates most needed in teaching service. In too many school districts the superintendent and school board cannot insist upon a budget that would enable them to obtain and retain the most wanted type of teacher. Teaching is being outbid in the marketplace.

In the recent local, state, regional and national conferences on education one of the major questions discussed was, "How can we get enough good teachers—and keep them?" Everywhere the conclusion was the same: There is no easy short cut to a quick solution of the teacher shortage; it is an inseparable part of a widespread shortage of trained manpower required to perform the high level activities in our complex society.

The most frequently expressed conclusion, included in the White House Conference report, emphasizes the need for an expanded base, up to and including the federal government, to carry the abnormally heavy burden of building construction which faces schools everywhere right now. It is daily becoming clearer that many districts are already encroaching unfairly upon future revenues in order to expand their physical plants. With overcrowded classrooms and nearly one million pupils now on half-day schedules, it is comparatively easy to arouse public opinion, to vote bond issues, to approve architects' plans, to initiate a building program, and thus to encumber the district with a maximum of future obligations. In other words, the present dire need for more classrooms readily leads to the immediate spending of revenues to accrue over the next 20 to 30 years. Bonds sold today are a prior lien against local taxes to become due during the life of the bonds. These future revenues, if spent now, cannot become available for current operating expenses—teachers' salaries—as taxpayers make payments to the local treasuries, year by year, in the future.

The long-range search for a solution of the teacher shortage may well depend upon redoubled effort in these two ways: counseling wisely students who choose to prepare for teaching and safeguarding the future financial stability of the local school district.

Surely the evidence is clear that wise planning and thoughtful counseling must precede any improvement in the utilization of our trained manpower. To be effective, this effort must be strengthened in high school and be continued more vigorously in college; we can do much more in helping each youth to recognize his capabilities. And we can best motivate him to develop those capabilities through the use of objective data—facts—concerning the nature and the number of opportunities in educational service at all levels and in all fields.

But the overriding need is to strengthen the financial structure, to extend the base so that the future stability of the local district will be protected. Buildings constructed now to meet the abnormal needs of the moment will be of little future use if their costs so exhaust the resources of the community that these buildings cannot be staffed with competent teachers. #

It's Worth All the Effort

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IN HIS essay on "Great Men and Their Environment," William James makes the point that great men alter society in individual ways that are peculiar to their special gifts.

Reading this essay made me think of the superintendent of public schools in a small or medium sized town or city, a man who has devoted 25 or 30 years of his life to one school system, a man who has helped his school grow and has grown with it.

As he approaches retirement, a man in this position must wonder what will happen to the school system when a younger man takes over. What changes will be made? Will the principles he has worked and fought for survive? Has his life been well spent or should he have worked for different goals? Has his work been appreciated? Should he have been on the move to better his position? All of these thoughts must crowd into the mind of a man who has spent his life developing one school system.

Without being an Agassiz or a Voltaire, the superintendent of schools is an example of the individual who is able to alter society in an original and peculiar way. The fact that he is a superintendent of schools establishes him as a community leader and places him in the position of influencing the development of the community. His longevity has given the individual the time to make his contribution felt. The influence of the superintendent is greatest as the director of the education of the youth of the community.

SHAPING THE COMMUNITY

Under the direction of the superintendent, the school has created an environment that is favorable to the development of certain characteristics and not to others. If this is not true how can one explain the differences in communities? Why does one community produce winning basketball teams year after year while another community produces outstanding bands and vocal groups? One community has outstanding graduates in science. A coal

mining town in Wyoming has in the school an art gallery that has merited national recognition. Other developments are not so easy to see, such as social developments, the type and caliber of intellectual developments, and the attitudes that are developed, but they do exist. The results of these differences are carried out into the community as a whole, spread and become a part of the community.

The superintendent also influences the adults of the community. He works with the parents. He speaks at civic clubs and women's groups. He selects an important segment of the community when he recommends teachers to the school board. In brief, his thoughts and actions become important because of the position he holds.

THE WELL SPENT LIFE

The superintendent who is nearing retirement should be able to see and sense his contribution, as an individual, to the life and social patterns of the community. He must be able to take pleasure in this fact because certainly he has developed the things that he feels are most worth while. His influence is not a passing thing.

Regardless of the changes a new man makes in a school system, he must build upon the foundation that has been built by the retiring superintendent. All of the attitudes that have been developed in the minds of the children who were educated under the direction of the first man will remain forever.

Knowing these things to be true, the superintendent who is nearing retirement must feel that his time and efforts have been well spent. His long service to one school system and one community can be measured in the amount of his influence because only over a long period of time can the individual hope to modify the society in which he lives. He has been justly paid for his time. What other profession could give him the same opportunity to make a lasting individual contribution?

Virginia voted for

Gradual Integration, But...

DOUGLAS S. WARD

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University of Virginia



State capitol at Richmond, Va.

EARLY this year Virginians voted 300,242 to 143,636 to call a constitutional convention to permit the use of public funds for tuition payments to private, nonsectarian schools. Beneficiaries of such payments would be an estimated 125 disabled and handicapped students in need of training programs not available in public institutions and 56 Negro college students, plus an undetermined proportion of the state's 724,475 public school students who may object to attending public schools if they become nonsegregated.

The referendum to amend the constitution was preceded by one of the commonwealth's most vigorous political campaigns in recent years. The vast resources and formidable prestige of the dominant state political organization, headed by venerable Sen. Harry F. Byrd, were thrown into the fray.

FORMIDABLE OPPOSITION

Despite recent demonstrations of strength by Republicans and the anti-organization wing of the Democratic party, which have combined forces to ruffle (but not seriously challenge) the complacency of the leadership, opposition in more than token form to organization endorsed recommendations is ordinarily unexpected. But one in every three votes was *against* a referendum issue backed by three former governors and virtually all of the top political leaders of the state, including Senator Byrd himself. The No vote on the referendum represents a formidable opposition in the eyes of many key leaders in state politics, according to reports of their privately expressed views.

Virginia has suffered *à la* Mississippi and Alabama in the nation's press as a result of the vote which apparently assures amending the constitution. Cartoonist Fitzpatrick in the *St. Louis Post Dispatch* depicted the "state of presidents" as a dunce in the corner. An editorial in the *Des Moines Register* said that "Virginians have gone to trouble and expense that might have been used in facing the facts," while the *New York Times* said editorially that "a majority of the voters of Virginia . . . have turned their backs on the future."

PRO-SEGREGATION MEASURES TAKEN

Within the state, pro-segregation sentiment has apparently predominated since the referendum. The state general assembly has sent Congress a resolution of interposition. Gov. Thomas B. Stanley has conferred with other Southern governors in support of a last ditch legal fight to maintain school segregation, with the all-important blessing of Senator Byrd. Punitive legislation has been passed which deprives Arlington County of the only elected school board in Virginia following quickly upon its announcement that as soon as state regulations expected to implement the Gray commission recommendations were effective it would begin gradual integration. A resolution by the legislature declares that segregation is state policy for 1956-57, against the warning of the attorney general that it constitutes no defense before the requirements of the federal district court.

But there is little doubt that the voters who went to the polls Jan. 9, 1956, voted overwhelmingly in favor

of the enactment of the moderate proposals of the Gray commission, appointed by the governor in May 1954, just after the Supreme Court decision. The Gray commission recommended for legislative enactment procedures designed to hold the line for as large a measure of segregation as possible, as it had been instructed by the governor 14 months before. Its recommendations, nonetheless, would result in limited, gradual integration.

First and foremost of the considerations leading to the decision to hold a referendum was the provision of the Gray plan that students who do not wish to attend nonsegregated schools may receive a tuition grant to help defray the cost of private, nonsectarian education. The amount each would be entitled to is set as the per pupil cost of instruction in his local district; the state average for 1955-56 was \$188, ranging from \$108 to \$341. It was necessary to change the state constitution to make this possible. The change was also made necessary by action of the state supreme court of appeals late last year if certain handicapped and Negro college students were to receive tuition grants to permit them to attend private institutions. The latter consideration was of minor significance for voters.

PROPOSAL UNCONSTITUTIONAL

The tuition grant proposal is considered patently unconstitutional by competent lawyers both within and on the outside of the state political organization unless the private schools which receive public funds as tuition grants are nonsegregated. This obvious eventuality was soft peddled during the

referendum campaign, but advocates gave as their opinion that "only a few of the better type" of Negro students would be able to obtain admission to the private schools affected. Many thoughtful Virginians undoubtedly prefer a limited, selective type of integration in such private schools to what they fear will take place in public schools. Nevertheless, the tuition grant aspect of the Gray commission report, which voters were apparently approving 2 to 1 in the referendum vote, permits—nay, requires—a measure of integration (else this part of the program will be declared unconstitutional).

The other main provision of the Gray commission report calls for a pupil assignment plan operated by local boards of education with power to require attendance on a basis of ability and other factors other than race. Not even the members of the Gray commission, instructed to maintain segregation if possible to the full extent, have claimed that this procedure could maintain complete segregation. Despite differences in academic achievement and other measures which might be used in assignment of pupils to a particular school, overlapping of ability between white and Negro groups is certain to occur to some extent if procedures are carried out in good faith. As in the case of tuition grants, the pupil assignment plan is intended to slow down integration and to maintain as large a measure of segregation as possible. However, it not only permits integration but makes it inevitable, albeit limited.

PEOPLE'S WISHES IGNORED

Few political organizations are highly responsive to the will of the people they represent. A measure of independence in the representatives elected by the people is an implicit element in the American way of government. But no political leadership group is entitled, under the American system of government, to ignore the wishes of the people.

Those who voted Yes in the referendum to permit the enactment of an important part of the Gray commission report voted in favor of limited integration, as I have described it. Those who voted No consisted in large part of a hard core of independent citizens who considered the Gray recommendations too conservative and who favored a more forthright attempt to abide by the decision of the Supreme Court.

How has the state's political leadership responded to the vote on the referendum? By voting an interposition resolution, by depriving Arlington County of its right to elect a school board, and by passing the Moore reso-

lution declaring that the state's policy for 1956-57 is to continue segregation of public schools. Legislation which the state political leadership urged and which necessitated the referendum may not be considered for another year.

Whom Shall We Send to College —the Few or the Many?

JOHN T. CALDWELL

President, University of Arkansas

SOME students of the question of who should go to college conclude that the upper 25 per cent intellectually should attend. The President's Commission asserted that formal education up to 14 years should be provided 49 per cent of the population and that "at least 32 per cent of our population has the mental ability to complete an advanced liberal or specialized professional curriculum." It appears that we are headed toward the realization quantitatively of these implied goals. How we do the job for these favored 32 per cent—among them the exceptionally gifted—and how we define them is important.

I recall a conversation I had once with our Selective Service director, Gen. Lewis B. Hershey. He remarked that he wished he could be sure that every time he had competent technicians on a gunnery team he also would have a competent team leader. Does this serve to remind us that in the efforts of society to provide special incentives and opportunities for developing the brainy specialist, the especially gifted in the sciences or in the arts, somewhere among "the many" is a boy or girl less gifted intellectually who may have qualities of mind and heart that make him potentially a great servant of his fellow man. Can he be identified when the scholarships are being passed out? Will he have the privilege of being a student alongside "the few" whom he one day must understand in order to help them, even

lead them? Is an institution dominated by "the few" a sound educational enterprise? Are not there ways within an institution to accommodate the needs of both, and produce a sounder man, better equipped for having developed mutual understanding or at least tolerance?

If one looks to the junior college or the community college to accommodate the many and relieve the senior colleges of some of that burden, it is probable he is mistaken. For the very availability of higher education represented by the community college, no matter how much the terminal character of one is stressed, brings more students into college from high school and in the end more bachelor's degrees than would otherwise be produced.

Nevertheless, it has been urged at times that it would be desirable to reduce the premium placed on a degree per se as an encouragement to many of "the many" to level off their education at a lower level. This notion contains many untenable elements. Would it be sounder to hope that some day the holding of a degree per se would not carry with it any advantage to the individual which the substance of the degree did not warrant?

Let me conclude by saying that the education of "the many" is as noble an enterprise as is the education of "the few," that each is difficult, important, expensive and philosophically troublesome. In our efforts to improve what we do for either, the other group must not be neglected. And, after all is said and done, sadly but truly, educated human beings are always "the few."

Abstracted from a paper presented to a discussion group at the National Conference on Higher Education, Chicago, March 1956.

Public Schools Are Convenient Scapegoats

The real blame is Lamarck's—because of what he contended but couldn't prove—and Mendel's—because of what he proved but didn't publicize

JAMES M. SPINNING

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SCHOOL people have long recognized that some, if not much, of the hostile criticism directed their way by parents springs from the human need of a scapegoat. For aside from parents themselves, schools and teachers are symbols, if not exactly seats, of authority. And who doesn't find relief in taking a poke at those who represent authority?

When things don't go right, when Junior lamentably proves that he is not a chip off the old block or just as lamentably proves that he is, how comforting to blame all on the educational system, its myrmidons and minions. Junior himself likes this answer. It would hardly do for the chip to reproach the block. It isn't nice to hate your parents, and it's particularly bad form to admit it. Parent and child can exculpate and luxuriate together—really intercommunicate—in the sport of external blame fixing.

In most cases parental resentment is abated on closer acquaintance with school and teacher. God bless the P.T.A., which has fostered such acquaintance. Of course, one may some-

times suspect that Junior regards the association of P. with T. as a particularly unholy alliance directed against himself.

But this business of blindly casting the school as an old goat involves just a simple bit of humanly frail psychology through which we all learn to live. It's good that parents should be partisans of their children. How infinitely worse when they aren't!

More baffling for teachers are the complaints about the schools which come heavily documented from the most literate and articulate patrons, those who are prepared to show that their offspring aren't doing as well in school as their very own parents did. Surely a drop of 27 points in the current quotations on family stock is proof that the schools aren't what they were.

Casting about in my own experience with those who of *their* own experience claim that the schools are not teaching the decencies now as of yore and cheerfully eschewing the labor of re-examining the evidence, I too select a scapegoat, in fact, two of

them. I put the finger on Lamarck and Mendel. These two botanists are at the bottom of a lot of it.

How come? Well, one of them is to blame for being wrong, the other for being right. If the Chevalier de Lamarck (1744 to 1829) had been as able to prove as he was to contend that the characteristics acquired by parents are transmitted to their children in like or better degree, the schools would not be dealing with youngsters who can never learn to read or cipher as well as Pop and Mom. And if Gregor Johann Mendel (1822 to 1884), shuffling the genes of edible peas, had not established that offspring do *not* draw their talents and defects solely from their most immediate ancestors, the school could pin the responsibility right back on Mom and Pop.

You see why I blame Lamarck and Mendel. Especially the gentle Mendel. He allows that while traits tend to cluster up in certain hereditary strains, all sorts of variants come down gene-wise from a horde of geometrically compounded forebears. Furthermore, this Mendel, sufficiently ignored in his own lifetime, has let himself be ignored also by the Moms and Pops of this era. So—

So if, for example, Pop is the finicking kind of person of whom magazine editors and English teachers are made, he is likely to be superconscious of his daughter's divigational spelling and highly unsympathetic with his son's view that commas are namby-pamby affectations as unworthy of a growing boy as soap behind the ears. Pop was never like that. Neither was Mom, the only other gene-source involved—thinks he. Ergo, a plague on these schools, these schools which their Bestor friends will tell them have abjured scholarship.

But I cuss Mendel—first, of course, taking a good sharp look at Junior's ability tests and achievement profiles and wishing I had for comparison those of his parents and grandparents at the same age. Because, you know, it might just be that the school is really falling down on its job. That is always the first possibility to explore and condition to correct. Certainly the school should not, as I do, also fall into the "projection" error.

But the chances are that the school's estimate of ability is better than that of the parents. In diagnosing difficulties the school has the incomparable advantage of so many more cases than

has even the most prolific parent on which to build generalizations from which to make deductions.

Too often we must reflect sadly that the higher the ability of the parents the less likely it is that their lad will equal them—though the more likely that he will outstrip his classmates. No one is surprised that Cromwell's son or Lincoln's or Browning's did not inherit his father's special genius. But when this thing comes close to home—well, it is a hard matter to explain to disappointed ears, especially if, as so often happens, the parents have been longing to see their own defeated ambitions realized by their progeny.

Otherwise, the scientific evidence would not be so hard to accept. Parents are frequently, if not always, ready to admit degrees of difference in talent as between or among their children, especially if on one they have hit the jackpot. Indeed, and they may be right, fathers who are themselves able in mathematics are prone to condone lack of mathematical sense in their daughters, as if this particular ability were either sex linked or permanently latent in the female.

Still I have noticed that even when they accept Mendel intellectually, parents will, when occasion and irritation serve, again betake themselves to an entirely different frame of reference, the one in which school and teachers find themselves framed.

At this point I must enter some disclaimers. First, I admit and gladly acclaim multitudes of literate and articulate parents who do not expect their children to manifest all the parental virtues, content if only they escape or decently conceal their portion of the parental vices. The trouble is that literate and articulate though they be, these parents are less vociferous than the others.

Second, I am always hopeful that many slow starting scions from the right side of the intellectual tracks will with maturity come closer to the expected family pattern. I remember the boy who explained to me his earlier reluctance to perform: "I figured the family was already running too much to brains." And I am hopeful, too, that many parents will yet discover in their children compensating excellences. I knew one literary gent who, after nagging his son bitterly for years, was glad at last to learn what the boy's teachers had known all along, that the lad's ability to handle facts and people was greater and of more use to the

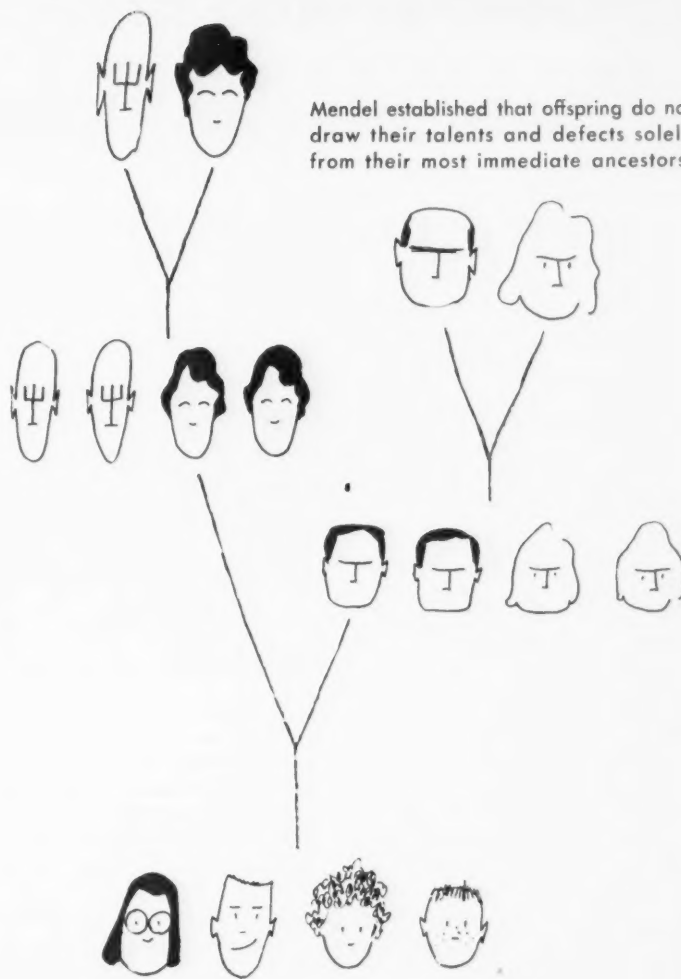
world than his father's ability to handle words had ever been.

Third, while I have known papas who couldn't count beyond 10 without the aid of a C.P.A. and still had the gall to inveigh against the brand of arithmetic taught to their children in the schools, I know that there are millions of others who are proud of the scholastic progress of their young, that there are even those parents who do not ascribe all such progress to some obscure virtue of their own but willingly share credit with the schools.

Fourth, when I was talking about finicking magazine editors back there I didn't really mean it. I love their prejudices in favor of literacy; I have even tried to communicate them. My point is that these things are (1) not directly inherited but (2) communicated, and (3) in marked degree only to susceptible subjects. I shall continue to do my best to instill veneration for good and reasonably correct writing even in those who can achieve only the respect and not the skill.

Like all teachers I have deep sympathy and high respect for the parents

Mendel established that offspring do not draw their talents and defects solely from their most immediate ancestors.



of those who fall short of hope and expectation. I just wish more of them would face genetic facts bravely instead of teachers angrily. Maybe someday a biological psychiatrist will be quoted to their help in the *Reader's Digest*. And maybe I'm expecting too much if I expect that to make any difference. Home truths so seldom get home.

So I conclude, for the moment, with this reflection. Because discussing the Mendelian concept with parents is freighted with more peril than profit, all that I have set down here has none but therapeutic value—and that only for school people. The therapy is the kind that comes from the process of analysis itself rather than from any solution of the problem, the kind that leads at best only to perspective. This can be pleasant and almost sufficient, except, of course, to those grim souls who scorn any conclusion less austere than one which they may proclaim as "a philosophy."

Some day when I understand things better I suppose I may even forgive Lamarck and Mendel.

Are School Attorneys Necessary?

Survey made in Michigan shows lawyers perform services related to nearly all phases of general school administration, from budgeting to public relations

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PRESUMABLY, no board of education would retain an attorney unless the need for his services could be justified professionally. To act on any other basis could indicate a loss of confidence in the superintendent of schools or failure to make effective use of the aids that are available.

With the assistance that is available, why should it be necessary for a board of education to retain a school attorney for any purpose other than settlement of issues that may require litigation?

By design, a superintendent of schools is the chief executive officer of the school system. His competency to administer the provisions of statutory law pertaining to the school district is normally assumed by the board of education at the time of his employment.

LEGAL AIDS AVAILABLE

The superintendent and the board have at their command a multiplicity of legal aids. These aids are the work of many agencies, with the major producer being the state department of public instruction. The list of aids is as varied as it is comprehensive. It includes handbooks and bulletins on subjects ranging from certification to financial accounting; newsletters and magazine articles that interpret state legal requirements in child accounting and other areas, and, finally, a state school code wherein the laws of the state that relate to education are compiled and indexed for reference purposes. Current and projected legislation is discussed at meetings of state, regional and local educational groups.

It should be possible to obtain considerable evidence about the need for a legal adviser from school attorneys, members of boards of education, and school superintendents. Certainly school superintendents should be able to provide pertinent and reliable information concerning: (1) the number of school districts retaining a private attorney or law firm, (2) the services the attorneys are providing school districts, (3) the administrative relationship of the attorney to the superintendent of schools and the board of education, and (4) the value of private legal counsel for the school district. These four items and one relative to the cost of legal services were the basis of an inquiry conducted among selected school districts of Michigan in 1955.

In all essential aspects the inquiry reflected the technics of descriptive research. Only those school districts in Michigan that employed between 20 and 800 teachers were considered in the survey. The 20 to 800 distribution was selected for three reasons. The research was conducted under the sponsorship of 13 metropolitan Grand Rapids school districts. This group was primarily interested in the problems of the small but rapidly expanding school system. In addition, the large city school systems in Michigan—those with a population of more than 100,000—were known to employ school attorneys. The cut-off point of 20 was established to eliminate from the lower extreme of the range nearly 3000 Michigan school districts that did not have superin-

tendents of schools. These limitations resulted in a study area that included the school districts with a population range of from 1500 to 100,000.

The districts were listed alphabetically, and a systematic sample was drawn by selecting every second school district. The school superintendents in the selected districts were then mailed postal card questionnaires. An affirmative response by the school superintendent to the question, "Did the school district retain an attorney in 1954?" automatically placed the school district in the second group. The superintendent of each district included in the second group received a detailed questionnaire on the extent and cost of legal services.

RETAINING ATTORNEY COMMON

Based upon the data of the survey, the generalization can be made that in Michigan the retaining of a school attorney is a common but not uniform practice. Of the 170 school districts contacted in the initial survey, 114 retained an attorney in 1954 and 56 did not. As shown in Table 1, the smaller school districts, those with from 20 to 40 teachers, made the least use of private legal counsel, while all districts employing more than 140 teachers, or those with an enrollment of more than 4000 pupils, retained an attorney. Thus, the smaller school districts appear to have less need for a school attorney than do larger districts, but this conclusion cannot be applied universally.

If size were the only factor operating to produce the need, then there



School Attorney Paul O. Strawhecker (seated) checks with the architect and school officials on insurance and completion of penalty clauses in specifications for an addition to an elementary school in the Godfrey-Lee district, metropolitan Grand Rapids. Standing are (left to right) Supt. Lloyd C. Fry, Board President Peter Waalkes, Secretary Robert Schellenberg, Trustee Gabriel Quakkelaar, and Architect James K. Haveman.

Table 1—Employment of Attorneys in 170 Michigan School Districts

Size District by Number of Teachers	Number of Districts	
	Retain Attorney	No Attorney Retained
500-600.....	1	0
400-500.....	3	0
300-400.....	2	0
200-300.....	5	0
190-200.....	1	0
180-189.....	3	0
170-179.....	0	0
160-169.....	1	0
150-159.....	0	0
140-149.....	2	0
130-139.....	1	1
120-129.....	1	0
110-119.....	1	0
100-109.....	5	1
90- 99.....	2	2
80- 89.....	2	2
70- 79.....	9	1
60- 69.....	12	4
50- 59.....	6	2
40- 49.....	14	3
30- 39.....	18	16
20- 29.....	25	24
TOTAL.....	114	56

should be few, if any, school districts in the 20 to 40 teacher category retaining an attorney. The responses do not show this relationship. In the 20 to 40 teacher category where the results should be predominantly negative there were more positive responses (43) than negative (40). Although size may accentuate the need, factors or conditions other than size must be operating to bring about the retaining

of private attorneys by public schools in Michigan.

One indication of need for service is the frequency of calls for legal assistance. To determine the frequency of service calls, the school superintendents were asked how often during 1954 the school districts used the services of an attorney or law firm. The answers given by the majority can best be summarized by the phrase, not very often. Only one of the 103 school superintendents indicated that the school district used the services of an attorney on a day-to-day basis, and only seven responded that the school district had need for legal counsel on a weekly basis.

The majority of requests for legal assistance tended to coincide with the regular meetings of the board of education, with 44 school superintendents indicating a use rate of legal services of once a month. However, there are many school districts where the use rate is considerably lower. Twenty-seven school districts requested legal aid once or twice a semester, and 20 asked for legal aid only once or twice a year.

In an analysis concerning the necessity of retaining private legal counsel, data on frequency of service calls should be studied in conjunction with the results obtained by applying additional measures including (1) other sources of legal assistance, and (2) the legal services performed by school attorneys. For assistance on certain legal problems school superintendents in Michigan may, for example, contact the department of public instruction

or, perhaps, the county superintendent of schools.

So that channels of legal help used by the school districts could be discovered, the school superintendents were asked to report on the agent or agency that proved most helpful in interpreting the provisions of the Michigan school code. The school superintendents identified two major sources of legal assistance: (1) the attorney retained by the school, and (2) the department of public instruction, used at about the same rate.

This would indicate that, in Michigan, school superintendents do not rely exclusively upon designated public

Table 2—Services Performed by Attorneys in 103 Michigan School Districts

Service Performed	Frequency of Mention
General legal counsel.....	81
School elections.....	76
Bonding.....	64
Real estate negotiations.....	59
In-court representative.....	31
Contract writing.....	25
School plant planning.....	11
Public relations.....	7
Budget review.....	2

agencies for an interpretation of the school code, although this service is without cost to the district. The cost factor, operating in this instance against the retaining of private legal counsel, is offset by other conditions. One of the conditions is probably the

extensive range of services provided by private attorneys.

The services performed by attorneys in the 103 school districts are related to nearly all phases of general school administration, from budgeting to public relations, as Table 2 (*p.* 59) shows. Although a specialist, the school attorney normally does not confine his activities to one phase or division and exclude all others.

THREE OR MORE SERVICES

In each of the 103 school districts, the attorney was performing three or more of the services shown in Table 2. The three services most frequently grouped were general legal counsel, school elections, and bonding. Although the categories are not mutually exclusive, a sufficient distribution of activities is shown to indicate the scope of the task facing private attorneys. Offering full and adequate legal coverage on all school problems is apparently beyond the resources or perhaps the desires of many local school attorneys.

Of the reporting school districts, 57 employed one attorney for all legal problems, while 39 retained one attorney or law firm for general school problems and a different attorney for assistance on bonding programs. The activities of private attorneys in Michigan appear to be concentrated in two major divisions: (1) general school problems that may or may not require court hearings, and (2) special school problems directly associated with the construction of buildings including site negotiations, elections and financing.

The differences between the two divisions extend to the methods of payment. General legal services are usually paid for on the basis of retainer fees. In the school districts as sampled, annual retainer fees ranged from \$50 to \$2400 depending, in the majority of cases, upon the size of the school district. Specialized legal assistance in the area of school plant expansion is based upon a rate plan. In the selected school districts of the survey, amounts paid clustered closely about a rate of $\frac{1}{2}$ of 1 per cent of the bond issue.

As the need for private legal counsel in Michigan school districts was explored, an attempt was made to discover if the current demand for legal aid had penetrated the administration of instruction. For this purpose an activity of importance in the administration of instruction—the selection of textbooks—was made the subject of a

question. The responses of the school administrators revealed one limitation on the responsibilities of school attorneys. None of the 103 school superintendents in 1954 had used an attorney to aid the school staff in the evaluation of textbooks.

Additional data that should prove helpful in determining the necessity for the employment of private attorneys were obtained by means of questions concerning administrative relationships of the attorney to the school superintendent and the board of education. Ideally, the highest degree of justification for the employment of private attorneys should exist in those school districts with an executive officer who has sole responsibility for recommending the employment of the attorney to the board of education. Justification for employment should be further strengthened among Michigan school districts if attorneys are responsible to the superintendent of schools for their school service activities and not to the board of education.

On the first point, 55 of the 103 school superintendents reported they had complete responsibility for recommending the employment of the school attorney to the board of education. However, in 34 school districts the board of education had assumed this responsibility, with the recommending authority being either a committee of the board of education or a member of the board. Fourteen school superintendents indicated that the responsibility had not been definitely assigned. In these school districts selecting an attorney was a matter of joint consideration by the board of education and the superintendent of schools.

WORKS WITH SUPERINTENDENT

The concept that the attorney should work directly with the superintendent of schools was more strongly supported. In 80 of the 103 school districts, the opinions and findings of the attorney were discussed with the superintendent of schools before they were presented to the board of education. In eight school districts the attorney worked directly with the board of education and seldom, if ever, discussed his findings with the superintendent of schools. In 15 school districts administrative responsibilities were not clearly defined.

With the superintendent of schools retaining the authority to recommend the attorney, there exists reasonable assurance that the appointment of

school attorneys, in at least the majority of Michigan school districts sampled, stemmed from an adequate study of need. That the school attorney did not service needs or assume functions that should be the responsibility of the chief executive officer of the school system was further supported by the data on administrative relationships, which revealed that by-passing of the school superintendent's authority had occurred in few Michigan school districts.

CONSUMER SATISFACTION

One of the tests of service is consumer satisfaction. If school attorneys are meeting needs effectively and efficiently, then the benefits the school district receives should be equal to or greater than the cost of services. That a high degree of consumer satisfaction existed among Michigan school administrators in 1954 for private legal counsel was apparent from their responses to a question about the value of their attorney's services. Only four of the 103 school superintendents reported that the cost of the attorney's services was too high for the value received. The majority of school administrators (71) indicated that benefits and costs were about equal, and a strong endorsement of private legal counsel was made by 28 school superintendents, who indicated that the cost of legal services could have been considerably higher in terms of the benefits received.

The nature of the problems encountered by the school attorney requires, on his part, a high degree of technical competency and an appreciation of public education. The stronger his qualifications, especially in an understanding of school law, the more effectively he can serve the local school system. By a decided majority, the school superintendents indicated that, when they selected private legal counsel, the attorney's knowledge of school law was more important than his ability to work with the board of education or the superintendent of schools, and decidedly more important than the cost of his services.

Upon the basis of data relative to the four factors of the survey—the employment of attorneys by size of district, services provided, administrative relationships, and benefits of service—the qualified school attorney thus may be considered to be a highly desirable, perhaps essential, administrative resource for Michigan public schools.

THE first article in this series described the financial difficulties in which most teachers now find themselves. In no sense can teaching maintain its rank among the great professions unless it is sufficiently respected for the remuneration to be comparable to that of lawyers and physicians.

It is well known that many teachers find it both desirable and necessary to supplement their teaching salaries through gainful employment beyond the regular school day and week, during vacations, and in the summer months. That they do so calls vivid attention to two suppositions:

1. Teachers are professionals and, therefore, must maintain a professional standard of living.

2. Teaching apparently is not a full-time profession requiring all the time and energies of those engaged in it or they could not undertake supplemental gainful employment.

A Problem of Increasing Significance. The administration of teaching as a profession faces a problem of increasing significance with regard to supplemental gainful occupational employment of teachers. This trend has been growing rapidly during recent periods of increased cost of living and prosperous times which make available so many such opportunities for gainful employment. There seems to be a significant current effort to stimulate the teaching profession to rise above the traditional attitude toward teaching to which there has always been attached a certain impecuniosity.

As early as 1932, the National Education Association¹ became concerned with this problem, noting at that time that about 6 per cent of the income of married men teachers was derived from noncontractual sources. Among rural married men teachers four years later, the percentage had increased to 9, and among all teachers had increased to 12 per cent. It is significant to note that this increase occurred during recession years when part-time jobs were less plentiful.

Beginning with 1940, a sharp increase was noted in the extent of outside employment of teachers, particularly men teachers. The practice became so marked that numerous state

¹National Education Association: *The Teacher's Economic Position*, Research Bulletin (September) 1935, p. 4. Also National Education Association: *The Rural Teacher's Economic Status*, Research Bulletin (January) 1937, p. 7.

Teaching Is Still a Part-Time Profession

WILLIAM A. YEAGER

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and local studies² were made of the problem. These studies showed that from 50 to 75 per cent of men teachers, both elementary and secondary, have been supplementing their teaching income through outside employment.

Amounts received varied widely; one study reported a mean yearly supplemental income of \$873. More than 2 per cent of men teachers studied earned an additional supplemental income in excess of \$2500. Moreover, 35 per cent of all men teachers reported that their wives were working in order to supplement their own "meager" salaries. It should be noted that some of these studies were made during the World War II period when the added services of all citizens were required for the war effort.

Since 1950, the trend toward supplementing salaries has continued at a significant pace. For example, in St. Louis in 1951, it was reported that only 8 per cent of men teachers lived on their professional incomes. All of the remainder (92 per cent) were engaged in various types of supplemental employment or their wives were engaged in some type of gainful employment outside the home. In Detroit in 1952 a similar situation was noted. In every instance the reason given by men teachers for earning supplemental income was the necessity for maintaining an adequate standard of living for themselves and their families. Studies in other cities reveal similar situations.

²For a review of these studies, consult Denbow, John Edward: *A Study of Supplemental Incomes of Male Teachers in the Public Schools of Allegheny County, Pennsylvania*, doctor's dissertation, University of Pittsburgh, 1953; Kring, Frederick Stevens: *A Comparative Study of Supplemental Income of Male and Female Teachers in the Public Schools*, doctor's dissertation, University of Pittsburgh, 1955.

Supplemental Income of Men Teachers. Some recent studies³ of supplemental incomes involve more than 1400 men teachers, located in all types of communities, urban, suburban and rural. These data represent both single and married men teachers, all of whom had some dependency load. The typical man teacher was nearly 40 years old, had a master's degree, and had about 12 years' teaching experience.

In smaller communities and rural areas, seven out of 10 men teachers reported supplemental income, while in the suburban and urban areas the ratio had risen to nine out of 10 men teachers. Thus the conclusion is obvious that the typical man teacher finds it both convenient and necessary to obtain supplemental income in order to maintain a desirable standard of living for himself and his dependents. Conversely, one might say that comparatively few men teachers do *not* now supplement their salaries in some manner. Many of the younger men teachers are using a portion of their time in activities that may not necessarily be listed as gainful employment, such as advancing themselves educationally. As soon as their education is completed it is likely that they will look for supplemental employment.

Nature of Supplemental Employment. Of those gainfully employed, about six out of 10 are so engaged during the winter months, with a similar ratio during the summer months. Many work during both periods. In these studies, there seems

³These studies have been conducted in the division of school administration of the school of education, University of Pittsburgh, during the last three years. They represent an attempt to ascertain the prevailing economic position of teachers and administrators through personal interviews and similar means.

to be little difference among elementary, junior high, and senior high school men teachers.

The length of time that men teachers work to supplement their salaries varies widely, the median number of hours being about 10 weekly during the school year. About one out of four men teachers works more than 15 hours weekly. During the summer the median number of weeks the men are employed is about nine (five days weekly). About three out of four men teachers held *one* outside job. However, about one out of four held two or even more jobs.

The prevailing type of employment for men teachers is professional and managerial in nature (65 per cent), such as recreation, accountant, engineering, technician, musician, newspaper work, summer camp, teaching boys' work, and religious work. But a wide variety of skilled and semi-skilled occupations is listed, such as bartender, bus driver, carpenter, clerical worker, farm worker, inspector, lifeguard, maintenance man, painter, plumber's helper, real estate salesman, service station attendant, truck driver, and repairman. A smaller percentage of men is engaged in unskilled occupations of labor status. Nearly 150 distinct occupations have been identified in these studies, the nature of which varies little between the school year and the summer. In fact, many men teachers continue the same employment throughout the school year and the summer, especially if they operate their own businesses.

The range in supplemental income received is wide, the median amount reported being about \$1200 annually. Many men teachers doubled their teaching salaries through supplemental incomes. The highest supplemental income reported was \$13,800 (real estate operator). These figures do not include the incomes of those men teachers whose wives are gainfully employed (about one in five). A working wife's income supplements her husband's, on an average, about 30 per cent. There is wide variance.

Supplemental Income of Women Teachers. It must be remembered that teaching today is predominantly a woman's profession, approximately four out of five classroom teachers being women. Since the median age of teachers is gradually rising,⁴ it should

⁴In 1940 the median age of teachers was 34.0 years; in 1950 it was 41.2 years.

also be pointed out that teaching is largely a profession of mature men and women. Our studies show that approximately one out of four women teachers has a supplemental income, through various types of gainful employment. Many women teachers average about 10 hours weekly during the school year and consider the danger point of such extra time beyond 15 hours weekly. Widowed teachers with dependents form the largest single group so employed; single and divorced teachers follow. Married women teachers are least likely to do extra, nonteaching work. All women teachers thus engaged declare that supplemental income is necessary to give themselves and their dependents an adequate standard of living.⁵

Clerical and sales occupations contribute the largest area of supplementary employment, followed in order by professional and management work, services, and sundry skilled and semi-skilled types of work. Specifically, these women are clerks, counselors, recreation leaders, musicians, newspaper workers, receptionists, salesladies, seamstresses, secretaries, department store clerks, technicians and teachers (other than public school). Some women teachers supplement their salaries with other income such as rents, interest, alimony, support for children, gifts and dividends.

Economic Necessity. Women teachers gainfully employed are emphatic in declaring that their supplemental income is an economic necessity in order to maintain a decent standard of living, support dependents, educate children, pay hospital bills, further their own education, pay debts, enjoy a few luxuries, take a vacation, and save a little. For some teachers it becomes an emotional outlet; for others a means of releasing energies not entirely utilized during the school day; for still others an opportunity to meet people and engage in some form of community service. Many women teachers not now so employed declare that they would much prefer to engage in some such activity providing for supplemental income if their health

⁵Naylor, Frank M.: *A Study of the Supplemental Incomes of Women Teachers in the Public Schools*, doctor's dissertation, University of Pittsburgh, 1956. See also Ruml, Beardsley, and Tickton, Sidney G.: *Teaching Salaries Then and Now*, Bulletin No. 1, The Fund for the Advancement of Education, New York, 1955. See also Kring: *op. cit.*

and home conditions would permit and the opportunity were available.

Restrictions. Still another factor affecting the supplemental income of both men and women teachers is the attitude of many boards of education and administrators, especially in terms of restrictions imposed as a part of their contractual relationships. These restrictions take the form of allowing *no* supplemental activity, placing limitations on the number of hours of employment, and permitting *no* menial or degrading work. In addition, many restrictions are imposed on teachers concerning the number of credits earned in improving their educational status while teaching.

Thus the part-time nature of teaching becomes all the more apparent. The fact that teachers can find the time to engage in supplemental gainful employment raises the debatable question as to whether teachers are being paid for full-time or part-time employment. In either case, salary schedules as well as length of school day and term and corresponding school schedules should be adjusted in accordance with a declared philosophy in this respect, which up to the present time seems to have been studiously avoided.

Some Conclusions. These studies indicate clearly that most men teachers and an increasing number of women teachers now are engaged in remunerative activities over and beyond their classroom teaching assignments in order to earn supplemental incomes and maintain an adequate standard of living. The nature of these activities varies widely, as well as the extent of income received. Certain conclusions stand out clearly:

1. Teaching as a profession is moving definitely toward a higher professional status requiring a higher standard of living and a corresponding need for increased financial resources to maintain it.

2. In order to maintain this higher standard of living, most men teachers and an increasing number of women teachers are now engaged in outside activities designed to supplement their teaching salaries.

3. The fact that they can engage in these activities beyond their classroom teaching indicates that teaching is still a part-time profession.

In the next article I shall examine the administrators' economic position.

Questions to be answered about

Pupil Insurance Programs

LEE O. GARBER

Professor of Education, University of Pennsylvania

BECAUSE the law requires a parent to send his child to school, does a district have the moral responsibility to indemnify the parent whose child is injured while participating in school activities, even though it may have no legal responsibility for so doing? As people appear to become more "security minded" or "security conscious," many appear to feel that this question should be answered in the affirmative, and many boards have given the matter considerable attention. As a result, some school districts have decided to embark upon programs of pupil insurance; others have refused to do so, while still others are considering the matter.

This problem of the school district's setting up a program of pupil insurance is a relatively new one and, as yet, it has received virtually no treatment in the current literature. Superintendents, however, have shown a great deal of concern about it. Not long ago, at a meeting of the school and college division of the National Safety Council, one discussion group focused its attention upon this problem and, as a result, raised the following significant questions:

1. Is it legal for a school board or a school district to participate in such a program?
2. How are individual schools administering their insurance programs?
3. Can the administration of this program be turned over to some agency like the P.T.A.?
4. Should teachers be asked to collect premiums?
5. What types of policies are best suited to the pupils' needs?
6. Is it possible to obtain a policy covering the pupils for 24 hours a day and 12 months out of the year?
7. What has been the experience of those school districts that have embarked upon insurance programs for several years with respect to rates?

8. Should athletes be included in the general coverage, thereby increasing the rates for all, or should special policies be obtained for them?

9. What about the child whose family needs such insurance more than many others but does not have the money to pay for it?

10. Should, or can, the P.T.A. pay for those unable to pay for themselves?

The answers to these questions appear to be eagerly sought by those responsible for recommending and adopting school board policies. They will come only as the result of a comprehensive and detailed study of the problem—a study beyond the scope of a single magazine article. (A doctoral dissertation in this field is now in the planning stage.)

LEGAL ASPECTS OF PROGRAM

Fundamental to the consideration of the over-all problem of pupil insurance is the matter of the legal aspects of the program. As yet, no question growing out of the administration of a pupil insurance program has been before the courts. Consequently, no authoritative answers are available. In spite of this, I shall now attempt to consider the legal aspects of the problem and to isolate some of the issues involved which have legal implications, without attempting to prophesy how courts will rule if and when litigation ensues. I hope that the highlighting of these issues may furnish school administrators with some cues which they may use as guides in the determination of policies.

Before this matter is considered, however, it might be well to consider briefly how the insurance program appears to operate in most instances. A school board enters into an agreement with some insurance company whereby the company agrees to make available to all pupils that are desirous of obtaining the benefits, and willing

to pay the price, a group insurance policy covering injuries growing out of accidents, and the school, in turn, agrees to act as the company's agent in making available to its pupils the liability insurance.

The exact coverage provided differs, depending upon the nature of the policy the school selects and the particular company with which the school deals, although all policies are essentially similar in most respects. Likewise, the administration of the program differs in different schools. Generally, however, the school assumes the responsibility of disseminating the essential information concerning the insurance policy available as well as the application blanks. Teachers collect the application blanks from the pupils after they have been properly filled out and signed by the parents. They also collect the premiums, which are then turned over to the company by the school. All claims made by pupils against the company are, as a rule, filed through the principal's office.

Most superintendents appear to justify the school's administering of an insurance program on the basis of the fact that the school is rendering a public service. Of this there seems little doubt, but the question still remains, "Is there any legal authority to justify the school's including this program among its numerous activities?" After all, does the school have the authority to engage in any and all activities that may be considered as public services? For example, can a school district assume the responsibility for developing a program of medical care for its pupils? Can it provide financial relief for the families of those pupils who come from homes that are particularly needy? In each case it would be rendering a public service.

With reference to the authority of a school board, courts are in close agree-

ment that a district—consequently its board—is an agency of the most limited authority known to law. It has only those powers specifically granted to it by statute, those necessarily implied therefrom, and those that are essential to the performance of the functions for which the district was created. In light of this rule, can the power to put into operation an insurance program be considered to be within the legal authority of a school board? This, it appears, is the fundamental question—one that the courts, as yet, have not been called upon to answer.

It is highly improbable that any case is likely to arise, in the near future, in which the authority of a board to set up such a program will be questioned directly. It is difficult to imagine any situation in which someone would ask a court to issue an injunction to restrain a board from engaging in an insurance program. Therefore, it is believed that if, and when, the legality of the program is attacked, it will be done collaterally or indirectly. Some of the situations that could give rise to such an attack will now be considered. They will be considered in the hope that they may cause school administrators to re-evaluate their policies and practices to the end that they may avoid difficulties wherever possible.

INDIRECT ATTACK

In the first place, it is not improbable that some teacher, somewhere, sometime, may bring an action against his school board asking the court to require the board to grant him extra pay for the time he spent in collecting insurance funds from pupils and in administering his part of the insurance program. After all, this is not unlikely where school boards already have rules requiring extra pay for extra services. Then the question will arise as to whether a board can legally use its funds for this purpose. This, of course, indirectly raises the question of the legality of the program.

Then, some day, some school board may prefer charges against a tenure teacher on the grounds of insubordination, and one of those charges will read somewhat as follows: "On . . . [a particular date] you refused to collect insurance premiums as required by a rule of the board of education." The teacher will demur, which will have the effect of admitting the truth of the charge but questioning the

board's authority to remove him on this ground. Then, again, the court will be faced with the question of ruling on the legality of the pupil insurance program.

Again, some parent may, sooner or later, go into court to question the right of a school board to pass a rule requiring every boy, if he wishes to play football, to take out such insurance. Is the board's rule discriminatory? Until the courts rule on the question the answer can only be surmised. If, and when, they are asked to do so, the whole question of the legality of the insurance program will be drawn into question.

COMPANY ACTION

Again, if, and when, some insurance company becomes antagonized because a particular board signed an insurance agreement with one of its competitors, the "fat will be in the fire." Will a court, when asked to rule upon the question of whether this board acted arbitrarily in this particular case, find it necessary to rule on the legality of the program? If so, how will it rule? Then, too, in some states where the law requires all who sell insurance to be licensed by the state, how will the courts rule if an action is brought against a teacher or teachers who purvey liability insurance to their pupils under orders of the school board, and by way of the classroom?

Finally, it is not beyond the realm of possibility that someone in charge of collecting insurance premiums from school children may "come up short" in his accounts, and the school board will call upon the company that furnished the bond covering such individual to "make up" the shortage. What if the bonding company refuses to do so on the ground that its agreement concerning the indemnification of the district is applicable solely to funds of the district? Are premiums collected by the teachers school district funds? If the court should hold that they are the funds of the insurance company rather than the district, might the company prevail in an action for recovery brought against the superintendent or the board members individually, on the ground they were negligent in not properly protecting such funds? Can the board spend its funds for a special bond covering loss of these funds? If a representative of the district who is responsible for collecting the funds from principals and for turning them over to the company is

held up and robbed, who stands the loss?*

These are only some of the situations that could arise and some of the questions that courts may be called upon to answer. Anyone with a little imagination could "dream up" many others. At present, the program is so new and so nebulous answers to these questions can only be surmised.

I am not recommending that the program be discontinued. Whether it is discontinued is a question to be decided by each board that has seen fit to organize and approve such a program. It can only be assumed that individual boards will render their decisions in terms of what they think is best for the children. After all, there is nothing unusual about school boards taking actions that they deem necessary, even though the authority for so doing may be questionable, and continuing to operate on the basis of these policies until such time as a court rules on the matter.

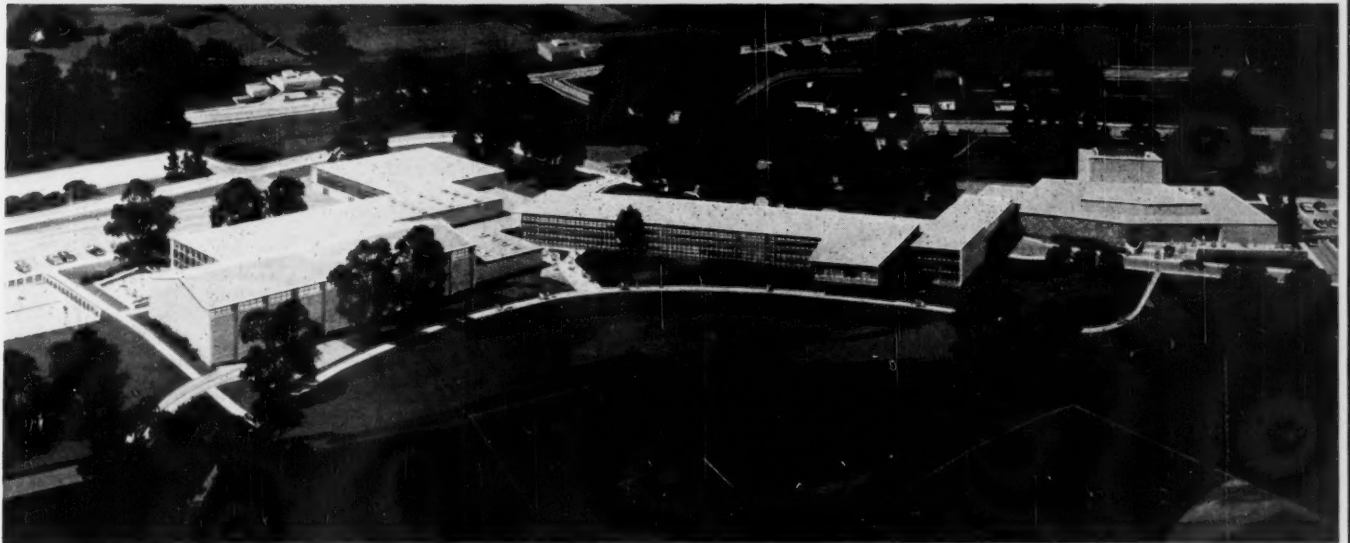
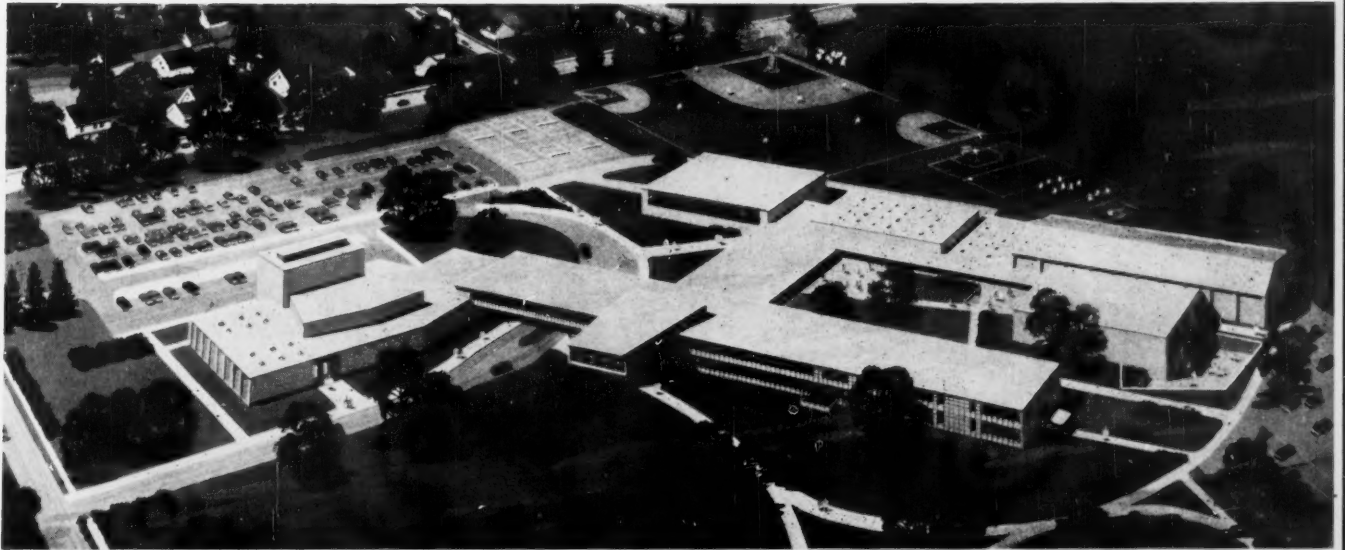
AVOIDING TROUBLE

In the meantime, if a board decides to sponsor or to continue to sponsor such a program, it should consider the questions raised and govern itself accordingly. If the assumption that no direct attack on the legality of the insurance program is likely to be made is sound, it might be that a school board would prefer that no collateral attack be made either. In that case, it might carefully consider the situations out of which collateral attacks could arise and develop policies and practices that will make it possible to avoid such situations as long as possible. For example, it might see to it that the insurance company provides bonds covering all those who handle insurance premiums. In other words, if a school board prefers that the question of legality not be raised, it would do well to anticipate those situations in which the question might arise and adopt policies and practices that would result in their avoidance.

As long as the legality of the insurance program is not clear, all schools engaging in such programs would do well to seek the advice of their solicitors or attorneys before taking any further steps and also regarding the steps already taken, if they have not previously done so.

*At this writing I know of one school district that is faced with the problem of what to do about insurance funds that were stolen from the school safe.

Schoolhouse Planning



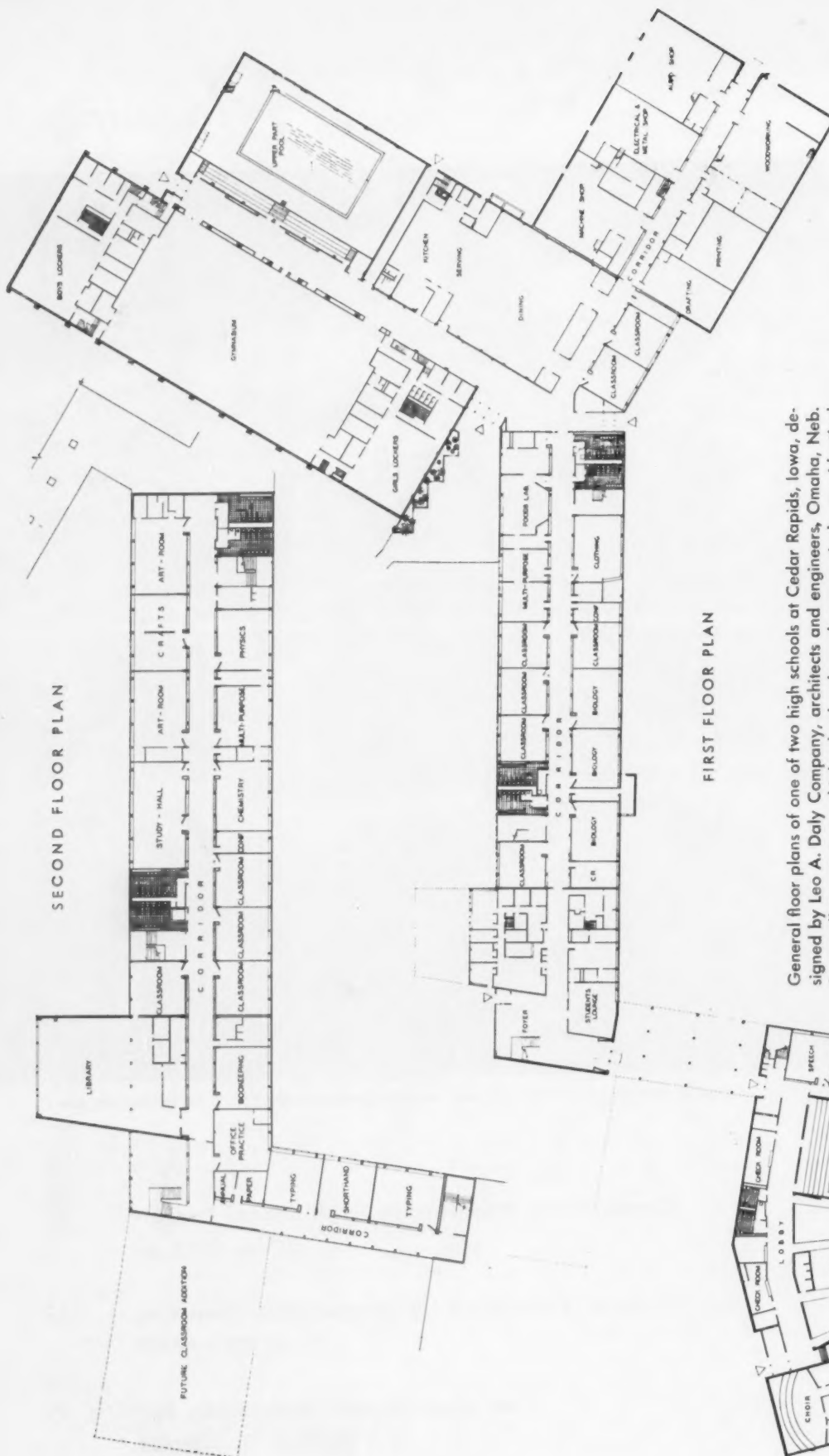
Architectural renderings of east side and west side high schools under construction in Cedar Rapids, Iowa

Cooperative Planning in High School Design 66
LEO A. DALY Jr.

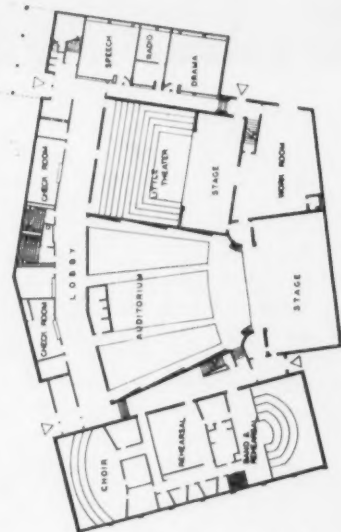
Citizens Convinced by Cooperative Planning 78
CLYDE PARKER

How High Should Doorknobs Be? 79
FRANCIS G. CORNELL

SECOND FLOOR PLAN



FIRST FLOOR PLAN



General floor plans of one of two high schools at Cedar Rapids, Iowa, designed by Leo A. Daly Company, architects and engineers, Omaha, Neb. Space allotments in two high schools, planned cooperatively, are identical but some adaptations were made owing to differences in the two sites.

For two new high schools

in Cedar Rapids, Iowa

Cooperative Planning as an Approach to School Design

LEO A. DALY Jr.

Leo A. Daly Company
Architects and Engineers, Omaha, Neb.

THE challenge and opportunity presented to the architects in planning the two new high schools in Cedar Rapids, Iowa, were unique. It was a challenge to meet educational specifications and an opportunity to use an approach to school building design that we have long advocated in designing other major buildings.

The cooperative planning approach involved working not only with the board of education and the superintendent, Clyde Parker, but also with the entire staff of the Cedar Rapids high schools and a large group of alert, informed people who made up the citizens planning committee.

CENTRAL PLANNING COMMITTEE

The central planning committee consisted of the four principals of the present high schools, the director of curriculum, the director of special services, and the superintendent, in addition to several members of the citizens committee. Under the central planning committee were area committees for special subject areas.

Members of these area committees were key teaching personnel, citizens and the supervisor of the special service in that particular area. Each area committee set up its requirements for the building and discussed them with the architect. These requirements were then taken into the central planning committee and approved, or, if there were any points of discussion, they were taken back to the area committee, threshed out, and then given final approval by the planning committee.

In working with each of the area committees, the architectural designer

first prepared a functional relationship or a "blob" sheet, as it was called. These blob sheets were used merely to denote space relationships within and between the various areas with little thought given to the size or shape of the room, the ceiling height, the materials used, or similar characteristics. The blob sheets were then translated into space requirements for each of the rooms and areas and a pencil or crayon sketch for each of the rooms was made.

Many people have difficulty visualizing exactly how a room will look from the preliminary drawings. The accompanying perspective drawings helped to give them some concept of what the finished room might look like as they were planning it. It is interesting to look back and see how closely some of the original sketches resemble the ones finally adopted.

In this way the requirements for each special area in the building were thought out separately by the area committee involved and then the various areas were fitted together into the whole building plan.

GENERAL REQUIREMENTS

The people of Cedar Rapids were interested primarily in a functional educational building. Along with a functional building, however, they also wanted an esthetic building. The two go hand in hand. Each special area in the building was planned with an eye to its esthetic qualities as well as its function.

This double planning process was carried on because of some doubt in the minds of both the committees and

the architect concerning the old axiom that "a functional plan will always produce a beautiful building." It was the desire of the architect to design a building with a personality rather than a cold hard shell, and to get away completely from an "institutional" atmosphere.

Both of the Cedar Rapids buildings were designed for the same number of students, 1500. The individual units are identical, but it was not necessary for the buildings to look like twins. Rather, it was believed they should look like members of the same family. Thus, they are placed differently on the site and actually look like different schools.

One of the specifications was that the various areas be separated as much as possible, so that those units with a high sound level would not disturb students in the classroom section. The planners did not want a separated plan which would mean that students would have to walk from building to building. They wanted the advantages of the campus school with its separation of units, but without the disadvantages of long outdoor travel. In winter the weather in Cedar Rapids is often very cold. They did want those high sound areas, such as the shops, the gymnasium, the cafeteria, and the auditorium, to be somewhat isolated from the main classroom section and from the library.

The foregoing requirement and the conditions prevailing on each of the two sites dictated the general layout of the buildings.

Also required was a drive-under or covered area under which cars and

buses could be loaded and unloaded in inclement weather. To solve this problem, part of the classroom section of the building was designed as a "bridge" over the driveway and the upper level used for classrooms. This bridged-over section serves the purpose of separating the auditorium from the classroom section, and the corridor gives ready access to the auditorium wing.

Flexibility is probably the basic philosophy in the planning of the Cedar Rapids schools. The Cedar Rapids citizens and the architect feel that flexibility is the answer to future needs. A school building will serve for a much longer period if the building itself can be adjusted to fit the needs of a dynamic, changing curriculum. Thus, the buildings in Cedar Rapids are designed on a modular basis

so that interior walls may be moved whenever the need for curricular changes arises.

The ability to move interior walls at will is not the only criterion for flexibility. Plumbing, heating, electric and mechanical services in a building must also be designed in such manner as to ensure ease and economy in future changes. True flexibility is achieved only by giving attention to each little detail in the design of a building.

A structural module is a unit of measure and is not necessarily always the same. When it is necessary to put such large areas as shop, cafeteria, auditorium, gymnasium and other large masses into the same building along with the regular classrooms, it is not to be expected that areas fit into the same structural or modular pattern.

Often it is more economical to put large areas into separate sections, rather than to connect them and have columns and other structural members come at inconvenient places. In the classroom section a 4 foot module was used, while in gymnasium, cafeteria, shop and auditorium it was more economical to use modules better suited to such spaces. This also helped to determine the semi-detached character of the buildings.

The east side site of approximately 40 acres was level to gently rolling, with a number of fine old trees that were worth saving, and this helped determine the position of the building on the site. The planners agreed that several earlier buildings had been placed too close to the street and had lost attractiveness thereby. For the two new buildings, it was decided that

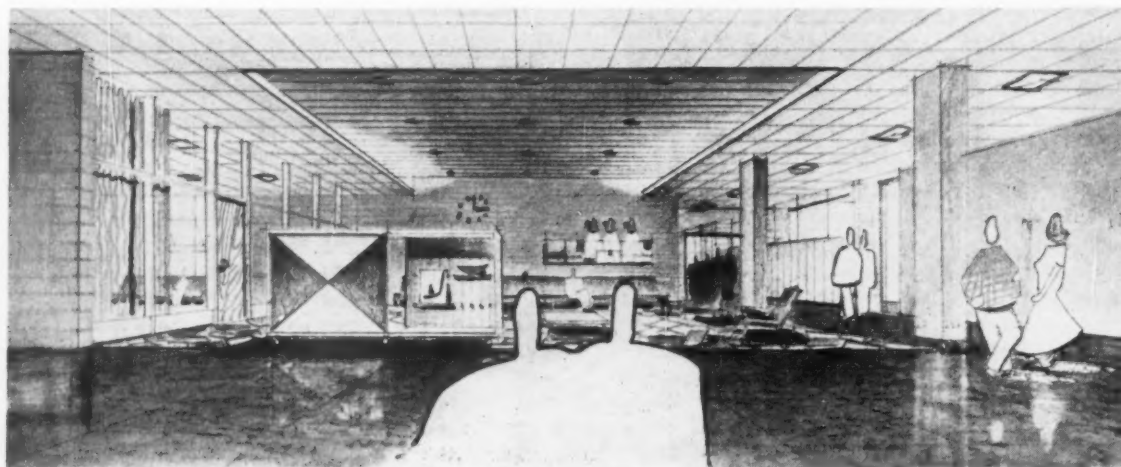
Administration



School officials at Cedar Rapids felt quite strongly that the administrative area should be found easily by strangers entering the building. Offices should be near not only the main entrance but also the parking lot, as many parents and visitors drive to the school today. Another requirement was that the offices be close to the study hall and the library for counseling purposes.

Our administrators wanted privacy but did not want their offices to appear as a series of small cubbyholes. The solution: Partitions are glass above the 7 foot level, allowing light to enter but still giving the desired privacy.

The guidance counselors wanted to be near the main administrative office, but they needed a separate waiting room so the



there should be an expanse of lawn in front, yet the buildings should not be so far away from the street that it would be inconvenient to reach them, particularly the auditorium and the gymnasium, which would be used more extensively by the public.

The 35 acre west side site was a rugged, barren field with an elevation of approximately 85 feet from the lowest to highest point. It was necessary to position the building differently to accommodate it to the slope of the land. Although the two buildings contain essentially the same facilities and were planned at the same time, their appearance is quite different. Each has been designed to blend into its site and surroundings.

Another factor affecting the position of the buildings on the site was the layout of the play facilities for

each school. Cedar Rapids was quite conscious of the need to plan the entire play and recreational area at the time the buildings themselves were planned. The baseball and softball diamonds, the football practice field, the tennis courts, and the hard surfaced playfields were all included in the site planning program. As much thought and attention were given to detail in planning the environment around the buildings as was given to planning the buildings.

Space for automobile parking is a problem of the modern high school. In both schools, the auditorium and gymnasium are located at opposite ends of the classroom section, so it was agreed that parking facilities should be placed conveniently near each of those sections.

The completion date for both school buildings is May 1957. The work this

far is progressing according to schedule, and no serious problem of shortage of materials is anticipated. The completion date will give the faculty and staff time to plan for the opening of the schools in September 1957.

The cost for the two new high schools will be \$6,500,999. This total includes development of site and playfields and landscaping, as well as the construction cost of the buildings themselves. The cost per square foot will be \$15.13 and the cost per cubic foot \$0.85.

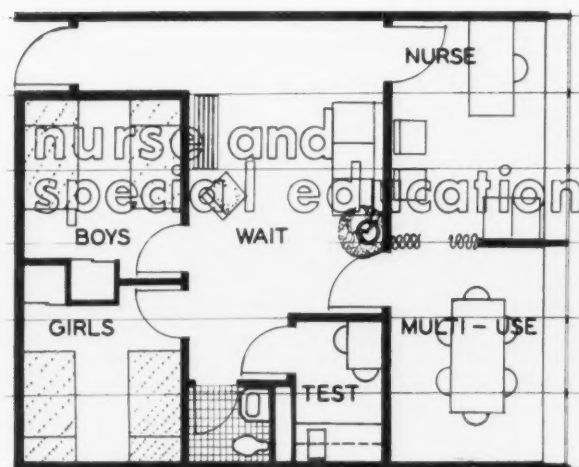
Cost data for the two schools:

General	\$4,605,854
Mechanical	1,298,000
Electrical	597,145
	<u>\$6,500,999</u>

Total sq. ft.	429,647
Total cu. ft.	7,655,717

students would not have to wait for guidance counselors in the main room. The counselors wanted to be close enough to the main office so that duplicate records would not have to be kept. They also wanted space to display vocational material in their own area.

Often teachers want their lounge located at some remote spot so that they can have privacy and can get away from students. In Cedar Rapids the teachers were quite vehement in their desire to have the teacher and student lounges located adjacent to each other and to the main circulation area off the lobby. They believe that this promotes better student-teacher relations. The two groups will share the kitchen facilities located between the two lounge areas.



Health

We thought that the nurse's office and the health suite should be located adjacent to the administration area and need not be near the physical education department. Usually when a pupil becomes ill the first place he goes is to the office. The health suite has two isolation rooms, a conference room, a nurse's office, and a testing room.

Academics

The academic teachers believed that a square classroom was a much more desirable shape for teaching than the long narrow classrooms so popular in the past. The basic classroom shape is 28 by 30 feet. When the space for shelving and cabinetwork is deducted this makes a square room 28 by 28 feet. This square shape also reduces the perimeter length of the building and thus is more economical.

The permanent cabinets located under the windows on the outside wall run the entire length of the building except for those laboratory rooms which need other types of cabinets. Interior walls can be moved on any of the 4 foot modules used in the classroom section without destruction of cabinet space and without rearrangement of cabinets. The cabinets provide the main block of storage space in each room.

It was found that each department in the academic area wanted and needed special cabinets to go along the corridor wall of the room. After much discussion it was agreed that combinations of three basic types of cabinets would meet all of the various requirements. These cabinets are completely movable and finished on all sides. They can be placed horizontally or stacked vertically or even placed in the center of the room and still retain an attractive appearance. All of the cabinets have removable bases and some have pegboard backs which, if the cabinets are placed in the center of the room, provide display space on the back. These cabinets were specially designed to meet the needs of the school staff.

The three types of cabinets have: (1) a sloping front which may serve as a magazine rack, (2) a solid front with adjustable shelves and an 18 inch shelf space, (3) a glass front with adjustable shelves and an 18 inch shelf space. All of the cabinets are adjustable and interchangeable.

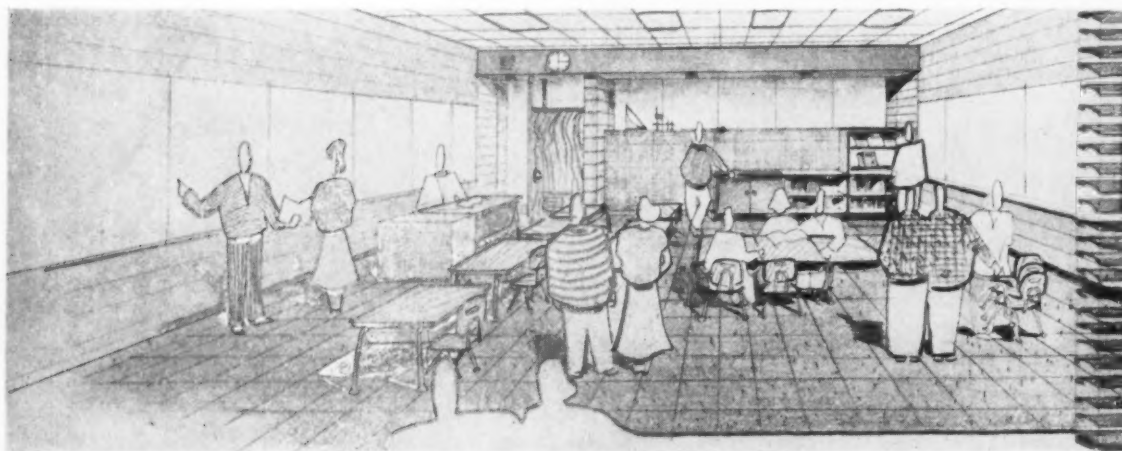
One big advantage of this type of cabinet is that additional cabinets can be made up on order at any time as they are needed and will match the original cabinets in the building.

Those teachers who do not have a permanently assigned room, the so-called "roving teachers," will use conference rooms in the academic section as headquarters so that they can be available to their students for counseling and discussion of their problems.

After some discussion, it was decided to use the corridor locker system, although there was some thought at first of going to a locker room or locker area system. The use of glass partitions above the lockers in the hall to borrow light from the classrooms into the corridors has a good effect. It serves to increase the apparent size of the hallway and to allow it to become a pleasanter, more desirable place for students to make social contacts. Corridors and connecting passages should be more than mere traffic passageways. A trip down the hallway should be a series of interesting experiences rather than a tedious walk down a long narrow space lying between storage lockers.

In each of the academic classrooms, near the doorway, there is a vision and display area. This is a combination vision panel and display case. When empty, the display case has the appearance of a vision panel. It tends to give students as they pass through the hallway a chance to see the activity going on in the classrooms, and it also brings part of the environment from the classroom into the hallway.

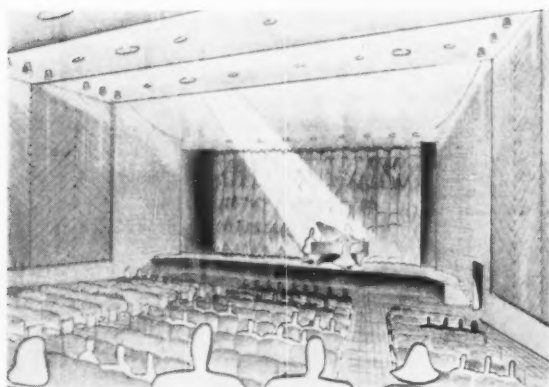
It is desirable in buildings the size of the Cedar Rapids high schools to cut down the horizontal travel of the students and faculty as much as possible. For this reason, and because of site limitations, it was decided that the classroom wing should be a two-story building.



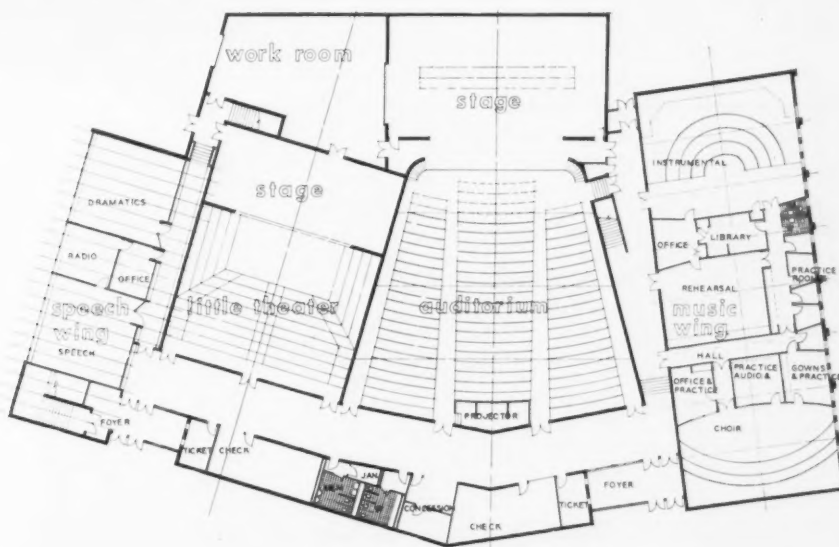
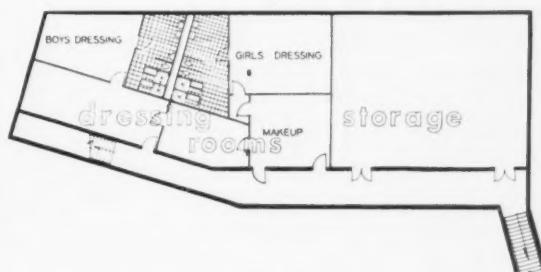
The art department started out as two complete areas, each containing an art classroom with its own separate crafts area. This was later modified to two general art rooms with a craft area between the two which can be used by both the art rooms or as an entirely separate area. Another important area is a small art display alcove located off the main hallway. This will be used for

traveling art displays and exhibits as well as for display of materials prepared by students in the art classrooms.

Art



Auditorium



At first we thought the auditorium should seat all of the 1500 students in each high school at one time. After we considered the matter thoroughly, however, we decided it was better from an educational standpoint to have both an auditorium and a little theater—the auditorium to seat approximately half the student body, or 750, and the little theater to be used as a laboratory by the speech and dramatics department and for small community group meetings.

The stage in the large auditorium will be large enough to seat the 100 piece bands and orchestras of which Cedar Rapids is justly proud. Close by will be a shop in which props and materials needed for producing plays on the stage can be prepared. Sight lines had to be especially designed for both large groups, such as bands, and for small casts of dramatic productions.

The little theater was designed not only for the pro-

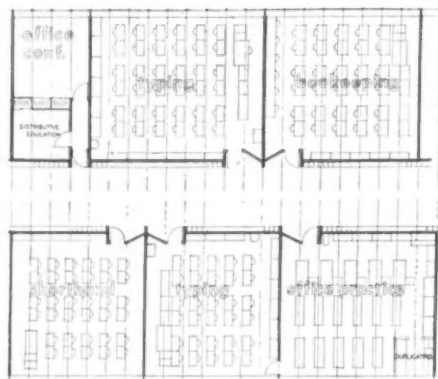
scenium type of play but also for theater in the round and three-quarter round.

The speech department was set up in this same area so that it could make use of the little theater as a laboratory in conjunction with speech activities. There are two classrooms, each with a small portable stage, in this department.

It was considered desirable to provide a radio control room and sound system that could be connected to the local radio stations, making it possible for students to gain experience in announcing, production, script writing, and other phases of radio work. The system also can be connected to the school public address system to provide a closed-circuit radio hook-up in the building. All the necessary conduit and space will be provided. Provision also will be made for the future installation of television equipment.

(Continued on Page 72)

Business Education



Since the sound of typewriters and office machines in the business education section makes that section noisier than any of the academic rooms, it was decided that this section should be as remote as possible and still remain within the academic section. It was therefore located on the bridged-over part of the building leading from the academic section to the gymnasium. Each of the rooms in the business education section was especially treated for acoustics and sound transmission. There are two typing rooms, one large and one small; one shorthand room; one bookkeeping room, and one office practice room.

Cafeteria



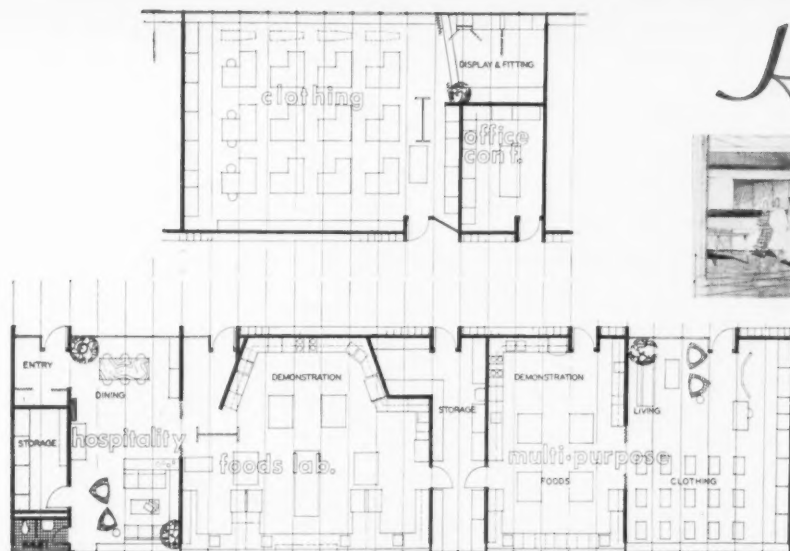
Requirements for the cafeteria in Cedar Rapids were that it should be a pleasant, well lighted place in which to eat and in which students could learn socially acceptable manners and make desirable social contacts. It should have multipurpose use: for school activities, for student activities, and for adult-student activities. There should also be storage space for a portable stage and space into which chairs and tables can be moved whenever the room is needed for dances or activities of that type. It should also have outside access and be able to be closed off from the rest of the building.

The kitchens in the Cedar Rapids schools are completely planned units set up to feed 1500 students in one and a half hours. The serving area is designed for the usual two-line operations and what is sometimes called an "open square plan." This is a newer trend in kitchen planning, one in which a given number of students comes

into the room at one time. They may choose whatever they want from a sandwich on up to a full meal without going through a serving line, go to the cashier, and pay for it.

There is also a "night kitchen," a complete small kitchen, separated from the large one, which can be used by the P.T.A. or small groups without disturbing the production line in the main kitchen. Too, there is a separate dining room for instructors and visitors aside from the main eating space for the students.

One of the most important items concerning a kitchen is a good service entrance and area, one that is convenient without being obtrusive. There are two service areas in each of the Cedar Rapids schools. One service area serves the cafeteria, the gymnasium, and the shop area, and the other serves the auditorium and the speech departments.



Homemaking



There were two requirements for the homemaking department: (1) that it be located adjacent to the cafeteria so that students could use the facilities of the cafeteria and kitchen when the need arose and (2) that it have an outside entrance or be close to an outside entrance so that adults can use it in the evenings. Rooms

in the homemaking area are a clothing room, a foods laboratory, and a hospitality room. The hospitality room is to be used for small teas and for demonstration purposes as a living area. There is also another room called a multi-use room, which can be used for clothing, foods or types and varieties of homemaking work.

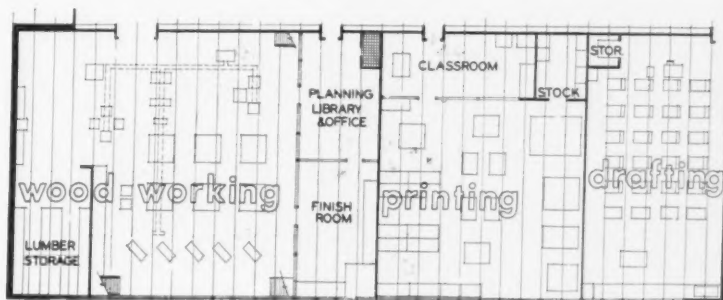
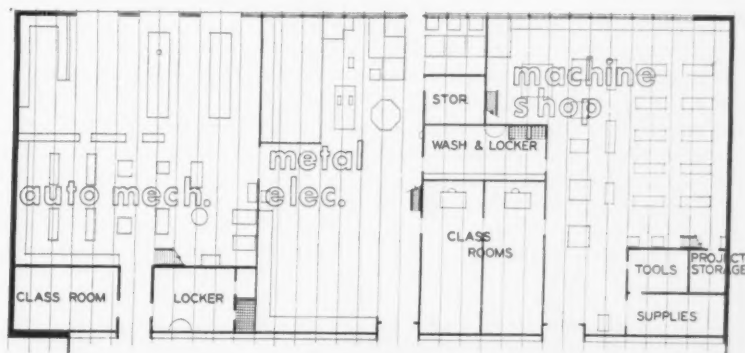
It was decided at the very outset that Cedar Rapids should have a complete shop program. Some discussion centered on whether the program should be a vocational one or an industrial arts program. It was decided, however, that if enough space were provided, the problem became an administrative problem rather than one of the space needed.

The shops provided were a printing shop, an electric shop, a drafting room, a metal and welding room, an auto shop, and a woodworking shop. The initial tendency in Cedar Rapids, as in many places, was to make the woodworking shop too large at the expense of the other shop areas. After a careful reappraisal of the values of the woodworking area, the space allotment was adjusted so that it was in line with that of the other shops.

Flexibility in the shop area is not just in the walls of the room itself. The electric service is brought in from above rather than through conduit laid in the floor. The mechanical services are also designed to allow for extreme flexibility. Machinery and equipment can be moved as needs change rather than having the location determined by the location

of floor outlets and other factors. Service to the shop area is also flexible. Overhead doors allow large pieces of equipment and supplies to be brought in, and trucks can drive into the shop area. (Cont. on Page 74)

Shops

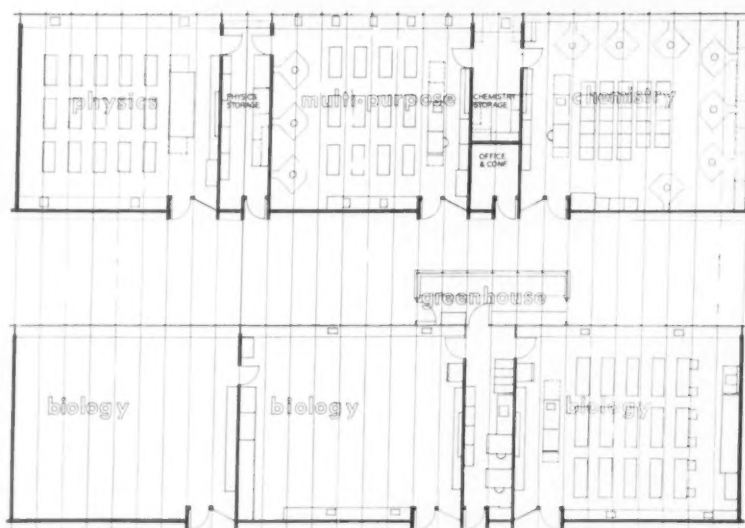


Science

At first we thought it desirable to have all of the rooms in one department, such as English or science, together. On closer examination, however, we decided that it would be more feasible to place all of the science rooms together and all of the special laboratory rooms together but that no effort should be made to group the mathematics, English and other academic classrooms. The schedule in these academic rooms thus becomes an administrative problem.

In a flexible building such as the ones in Cedar Rapids, putting all of the laboratory rooms which require special plumbing and other services together with general classrooms on either side of them allows the science rooms to be expanded by moving the walls. In the future additional academic classrooms may be added on at the end of the building and still all of the specialized departments can be kept together.

At first we planned for three



biology, two chemistry, and two physics rooms. After further study we found that one physics room could be modified so that it could become a multipurpose or a multi-use room and thus be used for any of the three subjects. In all of the science rooms we found that by using the newer

perimeter laboratory tables, with lecture type of chairs in the center of the room, it was possible to reduce the size of the room and yet retain all of the features of the larger, older type of room arrangement.

Primarily because of the need of a greenhouse for biology, the science rooms were located together on the first floor.

Music

Cedar Rapids is quite proud of its music department and its extensive music program. It has large bands, orchestras and choruses. Naturally the music department was located in close proximity to the stage. Some thought was given to the need for two instrumental rehearsal rooms and two large chorus rehearsal rooms in addition to the practice rooms,

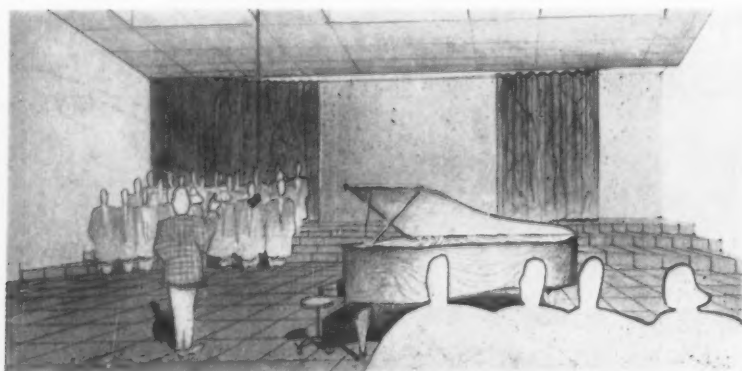
music library, and offices. In a discussion of scheduling and the use of the rooms, it was found that it was possible to cut the requirements to one instrumental rehearsal room and one choral rehearsal room without any loss to the efficiency of the department.

One unusual feature of the music department is that the choral and

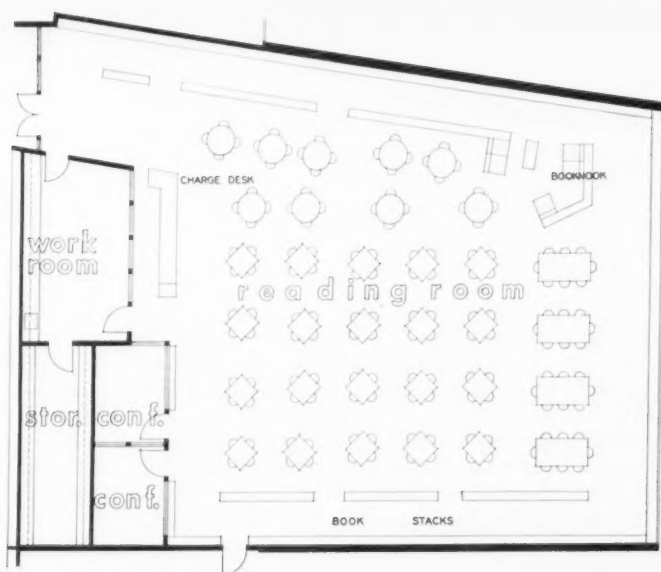
vocal department wanted four rooms to rehearse the four-voice parts in the choir. It was finally decided that the three small practice rooms in addition to the main rehearsal room would be adequate for this purpose. Two classrooms were provided for classes in appreciation, theory and harmony.

The music teachers did not want natural light in the rehearsal rooms. It is difficult to seat all the members of bands and orchestras so that natural light coming in a window will not create glare and be a disturbing factor. Artificial light could be better controlled and better used in these rooms, we decided. Small windows were used which allow better control of the outside light.

It is often difficult to adjust the acoustics in music rooms so that the music sounds natural. Too much acoustical control material often results in a "dead" room while too little results in a distorted tone quality. The Cedar Rapids music rooms were designed for specific reverberation times and with the number of people that will normally occupy the rooms in mind.



Library



The Cedar Rapids committee believed that the library was the most important area in the high school program and that it should receive first consideration. This was in line with the architect's thinking in terms of design and helped to determine the position in the building and to achieve the separated building masses. The functional relation or blob sheet, worked out by the designer, shows the main reading room opening off the corridor with conference rooms opening off the reading room, but not off the main corridor. It was felt that these conference rooms should be free of corridor noise and the interference caused by students stopping in as they passed by, interrupting the work of those using the rooms. The blob sheet also shows the location of the audio-visual room, the office, the workroom, the conference rooms, and the relation of each to the others.

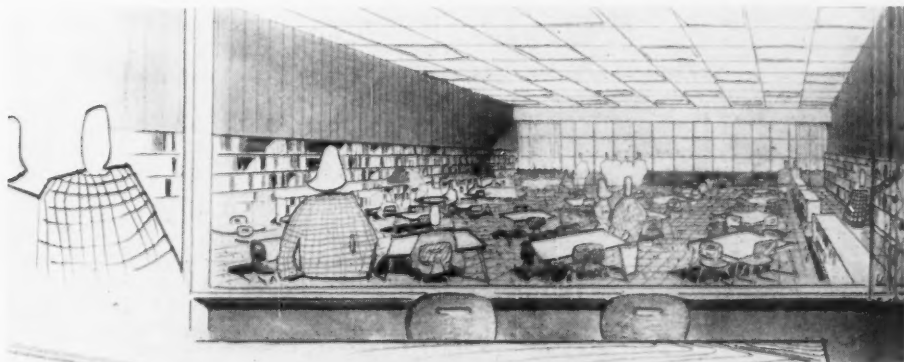
Another of the requirements for the library was that all of the approximately 10,000 books which would eventually be needed in the library be in open shelves around the walls so that they could be readily available to students using the room. Thus it was necessary to plan a room with as much wall area as possible. Yet

there should also be a window area, both for its psychological effect and for another quite important reason, that those who are reading should be able to look out a window and away for some distance to rest the eye for a moment and then return to the close work of reading again. However, it was determined that the library could be better lit with artificial than with natural light.

To acquire as much wall area as possible for housing the books, and in keeping with the importance of the library, an unusual shape was needed to contrast with the consistent rectilinear shape of the regular classroom area. The two side walls of the library room were splayed out rather than paralleled, and the end wall was made into a window wall.

A second floor location close to the study hall and to the administration area seemed desirable for the library.

The designer, working quickly, often had a sketch of an idea such as this one of the library within a short time. The committee could then approve or make further revisions and go on to other problems in its planning requirements.



Physical Education

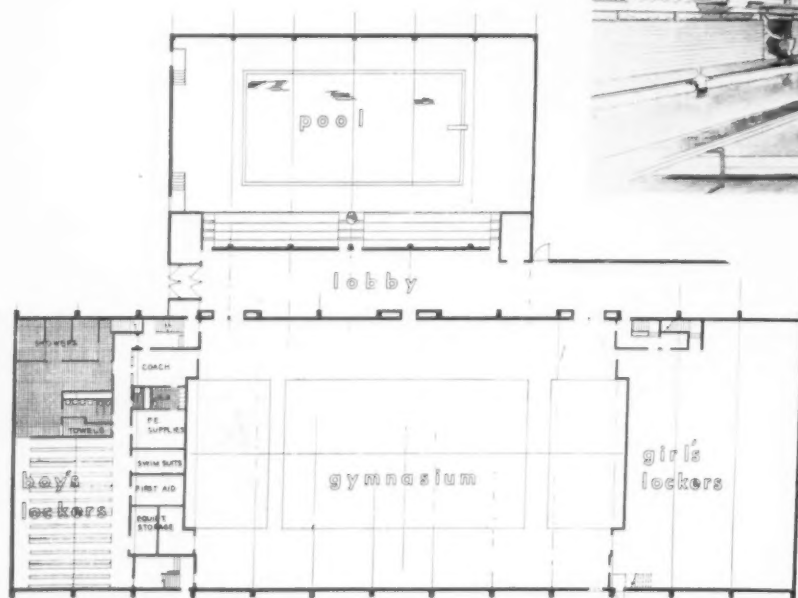
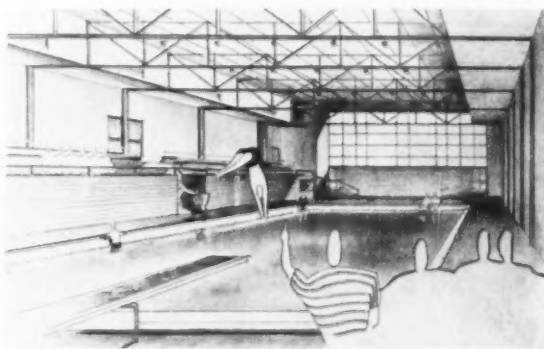
Physical education was considered to be of vital importance to the planning of an educational program by the Cedar Rapids staff and the planning committee. It was decided at the very outset that a minimum of five teaching stations was necessary to provide for the Cedar Rapids physical education program. It was also felt that it was not necessary to go into an extensive interscholastic spectator sport program to the detriment of the physical education and recreational program for all of the students and the community. Consequently, the seating space for spectators in the large gymnasium was limited to 2500 seats of the rollaway bleacher type. Storage room for the various pieces of gymnasium equipment necessary to carry on a good teaching and recreation program was provided. Two motorized folding doors were used to divide the large gymnasium into three teaching stations.

Another teaching station was provided by use of the area over the boys' locker rooms adjacent to the large gymnasium where various corrective exercises and games, such as wrestling, could be played. Bleacher seats were provided for use during the larger basketball games. These seats, however, are included in the total of 2500 seats. All spaces and circulation within the gymnasium were so designed that both boys and girls could use the space.

There was some debate concerning the need for a swimming pool in connection with each of the high schools in Cedar Rapids. It was felt that it was a necessity that each child in landlocked Cedar Rapids learn to swim before completing high school. It was finally decided that, since

swimming was a desirable part of the physical education program, a pool should be part of each building. Another factor which helped decide the issue was that Cedar Rapids is located in an area where the summers are comparatively short and the public facilities for outdoor swimming are limited. At first it was thought the pool should be an indoor-outdoor type which could be opened to the outside for summer. After considering the problems of operation and the initial cost of this type of pool, we decided to have an indoor pool with direct access to the outside, and with one glass wall to admit light and sun. A dark gray tinted glass was used in the wall of the swimming pool room to control the glare.

Although the swimming pool meets the minimum size requirements for competitive swimming events, spectator seating will be kept to a maximum of 250 seats, enough for parents or friends but not enough to allow the sport to be overemphasized. This same point of view was prevalent in all of the planning procedure. The people of Cedar Rapids want functional buildings to meet their needs for educational facilities and for the needs of the community, but not monuments or show places or to over-emphasize any one aspect of the educational program.



Cooperative Planning Convinces Citizens

CLYDE PARKER

Superintendent of Schools, Cedar Rapids, Iowa

IN 1952 the board of education, an architectural firm, and I developed plans for two new senior high schools. A bond election was called for Sept. 29, 1952. The amount of money to be voted on was \$7.5 million, which was to build two senior high schools and some elementary buildings as well.

After public presentation was made to the citizens of the school district, the election was held, but it lost by an overwhelming majority.

After the bond election had failed, it was apparent that some other idea had to be worked out to convince the people of the urgent need for new senior high schools in Cedar Rapids. A number of leaders in the community were called in, and their advice was sought. A citizens committee was discussed as a possibility. The board of education was skeptical, but was willing to try anything that would really work. Finally, the board called a group together for preliminary discussions. I was then assigned the task of working out a plan.

My staff and I recommended to the board the following plan to get together a representative group of citizens:

1. *One person to be selected from each elementary school unit in the district.* The selection would be made by the principal of the school and P.T.A. officers. The person chosen might or might not be a member of the P.T.A. Since there were 16 elementary schools, this method would provide 16 representatives.

2. *One representative from each of a selected number of clubs and organizations in the community.* Each club or organization was to be notified by letter about the plan and was urged to select its representative by a method devised by the club or organization.

A list of the original clubs or organizations follows: Chamber of Commerce, Cedar Rapids Open Forum, Memorial Commission, League of Women Voters, Camp Fire Girls, Junior League, Young Men's Bureau, Council

of Church Women, Ministerial Association, American Legion, Women's Club, C.I.O. Council, City Plan Commission, Inter-Service Club Council, Boy Scouts of America, Playground & Recreation Commission, American Federation of Teachers, American Association of University Women, American Federation of Labor, Parent-Teacher Association, Cedar Rapids Education Association, and the South Side Civic Club.

This plan was presented to the board and was immediately adopted. The first few meetings of the committee were presided over by the president of the board, and the general ideas of the group were explored. It was discovered that there was much misunderstanding of the needs of the schools in the community. It was obvious that the group would have to start right at the beginning and study the problem. This would mean checking and verifying the charts and tables and all materials previously presented to the public.

COMMITTEE'S PURPOSES

The board felt that the committee's purposes should be stated in clear terms so that the representatives would understand what was expected of them. As stated to the committee, they were:

1. To become familiar with the educational program of the Cedar Rapids public schools.

2. To become familiar with the building needs of the Cedar Rapids public schools.

3. To study the building proposals submitted to them by the board of education to meet the needs of the Cedar Rapids public schools.

4. To help disseminate information and facts to the citizens at the grass roots.

By the third meeting, it was evident that the group was willing to assume responsibility in helping the board with its building problem. It was then decided that the group should become an organization and elect offi-

cers. In subsequent meetings the citizens committee decided that there should be a \$3.75 million bond election for elementary schools. This was sponsored successfully by the committee.

The citizens committee decided to develop its organization still further. Subcommittees were appointed, and an instrument of organization was drawn up and adopted.

After the organization had adopted a constitution and by-laws, it began a study of the senior high school problem. It was proposed that two senior high school buildings be built, that the present four six-year high school buildings be used as junior high schools, and that the campaign for a bond election should be timed for one month.

This bold idea scared the wits out of the board of education and the administrative staff. Nevertheless, the board and staff approved the idea, and things began to happen. The citizens committee adopted a calendar of events and began work to publicize the needs of the schools. My staff and I helped outline speeches for citizens committee members and helped write articles for newspapers and scripts for radio and television. This, of course, became a strenuous job for the school people. During the month of May 1954 we did nothing except furnish information and service to the citizens committee members.

SIGNIFICANT POINTS

The successful vote, though a close one, was the primary conclusion of the efforts of many people. There were many significant points which one should not overlook in such a venture. Some of them may be summarized as follows:

1. An attempt to vote \$6 million worth of bonds in a community like Cedar Rapids should not be undertaken unless a representative citizens committee has studied the problem carefully and has approved it, not only

verbally but by an active program of promotion. As the election was carried by a bare 60 per cent majority, the proposition would not have carried without the citizens' full support.

2. It will always be difficult to convince voters that they need buildings for school purposes. In Cedar Rapids, the proposition was certainly publicized in about every conceivable way, and still it barely carried. With less effort such a campaign would certainly fail.

3. The public is more likely to accept the promotion of a bond campaign from a representative lay committee than it is to accept it from school administrators and even the board of education. This thesis is substantiated by the fact that the first campaign failed when the administration and the board promoted it. There was little argument during the campaign sponsored by the citizens committee, but there was considerable argument during the first campaign.

4. The citizens committee members learned a great deal about the schools during this experience. This was an excellent by-product. These people now feel that the senior high school program is theirs. They feel a responsibility for it. They want the best possible solution to the problem. Public relations is at a high level.

SELECTING AN ARCHITECT

How was the architect selected?

Questionnaires were mailed to 80 architectural firms throughout the country; the firms were asked to fill in and return the questionnaire if they were interested in the project. About 50 questionnaires were returned.

The board of education and I narrowed the field to 12 firms. Through another process of elimination the group was reduced to three firms. Buildings designed by each of these three firms were visited and thoroughly inspected, not with the thought that Cedar Rapids wanted a building like any of those visited but to see the kind of construction and the quality of work produced by each of the firms.

Each of the three remaining architectural firms was asked to bring any of their employees, designers or representatives to a meeting of the board of education and explain or tell anything they chose about their organization, the work they did, or anything they felt might be of interest to the board. Each group was asked to come to a different evening meeting and was

allowed as much time as it wanted to use.

The Leo A. Daly Company of Omaha, Neb., was selected by the board to design these two high school buildings because it was extremely interested in the cooperative planning approach Cedar Rapids wanted to use.

How was the building planning program developed?

From the very beginning, there was no question but that the planning of the Cedar Rapids high schools must be a cooperative planning process which would involve interested people from every segment of the population, the faculty, the board of education, the pupils, and parents. Virtually every area of civic life was represented in the 125 member citizens committee. Since the citizens committee was already active in Cedar Rapids, and had helped plan the elementary program, it was only natural that it should be a vital part of the planning process for the high schools.

FACULTY HELPED PLAN

How was the faculty used in the planning process?

Meetings were held with every department of the Cedar Rapids high schools, and each department or subject matter group outlined orally the teaching and building requirements of that department, the amount of space required, the location of this space in relation to other departments and administration, the traffic flow, any acoustical or other special requirements it might need, and any unusual or individual needs it might have. These oral reports were written down and supplemented with other written materials.

How was the citizens committee used in the planning program?

The citizens committee held regular meetings at which the various reports of the departments were discussed and the problem was thought through by the entire group. In this way every school department, the citizens committee, and all who were concerned with the buildings were made aware of the total problem and the manner in which each area and department had to mesh with other areas and departments to solve their problems.

What part did the architect play in the planning procedure?

Usually, when building a school, the architect is given a set of educational requirements or specifications

and is asked to set up a building solution based upon these requirements. In our case the architectural designer was brought into the planning stages. He met with the planning committees and with the citizens committee. As each department and area was discussed, the designer gave counsel on whether these plans were practical from a design and structural point of view.

How long did the planning program take?

The preliminary planning stage with the architect and the committees took about six months. Thirty days were allowed for contractors to prepare their bids on the projects; bids were read at a meeting on Aug. 18, 1955. Thus it took just about one year from the time the architect was selected until the plans were complete and the contractor was ready to begin construction.

When the bids for the buildings were opened there was a difference of more than \$1 million between the original estimate and the actual cost. There were two possible solutions to the problem. Either something could be taken out of the buildings, such as the auditorium wing, or additional funds would be needed to construct the buildings as they were planned.

VOTERS DECIDED

The board of education pondered the situation thoroughly and, wisely, came to the decision that, as the planning process had involved every segment of the population and the buildings truly represented the best thinking of the people, the people should decide whether they wanted to pay the increased amount necessary or leave out, at least for the present, some part of the facilities they had planned.

The board of education called a special election and put it squarely to the voters. The citizens committee again accepted the challenge of presenting the facts to the people, and the result was an overwhelming majority in favor of erecting the buildings as they were planned. The vote in favor of the extra levy was almost 8 to 1.

The type of building planning that produced these two new high schools is just the approach that is needed in Cedar Rapids. The teachers, parents, pupils and community have planned these buildings. They are ideally suited to the needs of the community in which they will be located.

How High Should the Doorknob Be?

Custom and tradition often blunder in determining the physical facilities of the classroom. Too often the environment for children is designed for adults.

FRANCIS G. CORNELL

Educational Consultant

Engelhardt, Engelhardt and Leggett, New York City

WHAT determines the shape, size, location and spacing of physical facilities in the classroom? How high should a chair be? A desk? How wide should a desk be? A corridor? What should the dimensions of a classroom be? How high from the floor should a doorknob be?

These are questions that seem inconsequential to the sophisticated administrator properly concentrating his attention on the intellectual aspects of the educational program. But it is well known that the social and intellectual environment of a group of

human beings is greatly influenced by the physical characteristics of the environment—not only matters of light, heat, temperature and humidity but the convenience of the physical things that people use in accomplishing assorted human tasks.

Such questions as the foregoing may be frequently asked when physical facilities are provided for boys and girls in schools, but certain conventions become established through custom and tradition—somebody conceived of a classroom of a certain size and shape, of a school desk of a certain size and

shape. Through a process of cultural diffusion—one group copying from another—a model type develops. There have indeed been rational grounds for some of the so-called "standards" which are used for the dimensional features of classrooms. Yet, in the main, these things have been established much as styles for automobiles, clothing and housing were established.

There are two ways in which research, only within recent years, has changed this "cultural evolution" basis for classroom design. One of these is *basic* research which has come about in

ACCEPTABLE DOOR KNOB HEIGHTS FOR SCHOOL CHILDREN BY GRADE LEVEL BASED UPON ANTHROPOMETRIC MEASURES

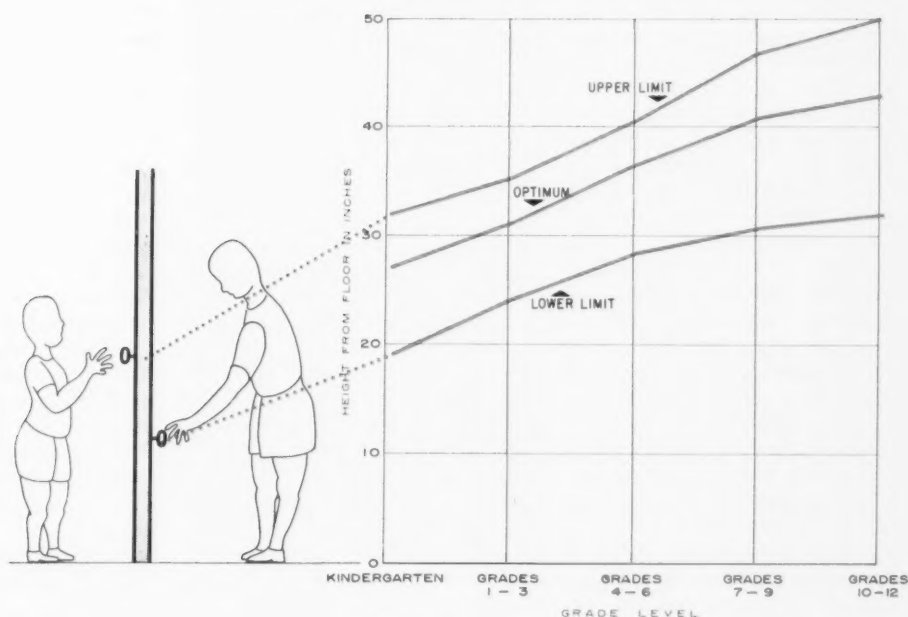


Table 1 — Average Ratios of Critical Limits for Doorknob Heights to Standing Heights of School Children, Expressed as per Cents, Five Grade Levels

Grade Level	Percentage Doorknob Height of Stature		
	Lower Limit ^a	Optimum ^b	Upper Limit ^c
Kindergarten	38	58	78
1 to 3	39	61	80
4 to 6	40	62	81
7 to 9	40	63	82
10 to 12	40	63	82

^aHand height in easy forward bend as per cent of stature.

^bElbow height in standing position as per cent of stature.

^cShoulder height as per cent of stature.

Table 2 — Acceptable Doorknob Heights for School Children by Grade Level Based Upon Anthropometric Measures

Grade Level	Height From Floor in Inches		
	Lower Limit ^a	Optimum ^b	Upper Limit ^c
Kindergarten	19	27	32
1 to 3	24	31	35
4 to 6	28	36	40
7 to 9	30	40	46
10 to 12	31	42	49

^aNinety-fifth percentile of measurement of hand height in easy forward bend of highest grade in group.

^bAverage elbow height in standing position of group.

^cFifth percentile of shoulder height of lowest grade in group.

response to a desire for a rational justification for many decisions. Another has been the trend away from uniformity in planning facilities for schools toward purposeful designing of these facilities to fit the characteristics of a community and the specific educational and curricular needs of teachers, pupils and others who are to use these facilities. This leads to doorknobs.

It seems silly to write of doorknobs. A doorknob seems too unrelated to pupil achievement, to pupil adjustment, or to any intellectual behavior of a pupil. I take doorknobs because this example illustrates how a little research will justify an entirely different perception of a physical dimension in a classroom or in a school. A research attack on such problems starts with the human being and his social, biological and psychological needs as they relate to some aspect of his physical environment.

The doorknob is not an ornament. It has a clear purpose. Its function is to permit the individual to open and close the door. A physical job analysis of the operation of the individual in using the doorknob is quite simple. The use of a desk or work counter or a bookshelf can be considerably more complex but even the doorknob needs analysis. Specifically, we will consider the question: How high should it be from the floor? A research approach to this problem may be defined by the question: In terms of how the doorknob is used, how will it be placed on the door so as to facilitate the operation of closing and opening the door by the human individual?

I suppose that architects, school superintendents, and others have thought of this—or perhaps by trial and error

carpenters and contractors have established what seems to be about an acceptable height of a doorknob from the bottom of the door, because measurements of many, many doorknobs in schools, in office buildings, and in homes show that they generally seem to be somewhere between 32 inches and 37 or 38 inches from the floor.

When doorknobs are placed in the schools the problem is complicated by the fact that many different individuals of many different body measurements use the doorknobs. It seems reasonable that doorknobs in a high school, to be most convenient for high school students, in general would not be located at the same distance from the floor as doorknobs in a kindergarten, if also they are to be located at optimal distances from the floor for kindergarten usage. But even so, there is a great variation in the physical dimensions of boys and girls within each grade level so that few kindergarten children are of the same height as few 12th grade children are of the same height.

A little experimentation will show that if a human being exerts a "pulling force" with one hand from a *standing position*, the best position for the obstacle to be pulled is just about elbow height. This is approximately at waist level. Also, the effort is increased as the object is raised above the waist level, but, if a great pulling force is not required, it is not intolerable up to about shoulder level. Simple principles of physics concerning the lever applied to the construction of the human body will show why pulling from a standing position an object which is above the shoulder becomes increasingly difficult as the height above the shoulder is increased. An upper limit

for any individual for reasonable convenience, therefore, might be shoulder height from the floor. On the other extreme, the ability of the human being to pull an object is increased up to a certain point if the object is placed below waist height, as the best position for pulling is one that involves a slight crouch of the body. This places the elbow at a level somewhat below waist height. However, we shall assume that it is not desirable to stoop or crouch to open a door even though a somewhat greater force may be applied from that position.

It seems obvious that the most serious error in the location of a doorknob then (particularly in elementary schools) is to place it too high. It is easier for a teacher to stoop a little to open a door than for each of 20 or 25 children to reach up to open a door, particularly if doors are equipped with mechanical door checks of the hydraulic or pneumatic variety which require considerable force.

It is possible to study reasonable limits of doorknob heights from studies which have been made of anthropometric measurements of school children. The most complete of these has recently been published by the National School Service Institute* in cooperation with the U.S. Office of Education and the University of Michigan. Unfortunately, there has never been a good national sampling of school children measured in this way. Moreover, it has been observed that in different regions of the country, and among different ethnic groups, physical dimen-

*Martin, W. Edgar: *The Functional Body Measurements of School Age Children*, Chicago, National School Service Institute, 1954, p. 90.

sions of school children vary greatly. However, among groups of school children of comparable age, the ratio of body measurements to stature (*i.e.* the standing height) is reasonably constant. This means that any school or community may examine its health records which always show heights, ages and grades of children and apply ratios to determine strategic body dimensions for various groups when physical facilities are planned.

For example, in Table 1, the percentages for children at different grade levels may be used to determine the upper and lower limits for heights of drawer pulls or doorknobs. These percentages are almost constant from the fourth grade up, but below that the proportions of the human body are quite different, and the limits are hence different proportions of stature.

UPPER AND LOWER LIMITS

In this table we define the lower limit as the *hand height* in easy forward bend. The upper limit is *shoulder height*. The optimum is *elbow height* from a standing position. Thus, a kindergarten youngster 46 inches tall on the average would be able conveniently to reach a doorknob not lower than 38 per cent of 46 inches (*i.e.* 17.5 inches) and not higher than 78 per cent of 46 inches (*i.e.* 36 inches). The optimum height would be 58 per cent of 46 inches, which is approximately 27 inches.

The problem is to take into account the fact that there is a 10 inch or 15 inch variation in the optimum heights for doorknobs within given grades. It is impossible to plan for any great future period the exact grade level which will be assigned to a classroom so that dimensional characteristics of school buildings must generally be designed for *groups* of grade levels, such as primary, intermediate, junior high, senior high, so that the variations in stature of children may be expected to range even as high as 20 inches.

In an elementary school what seems to be needed, therefore, is a standard for such things as doorknob heights which will be a "tolerance band" such that the height of the object will be (1) below a minimum for only a few of the tallest children in the highest grade, and (2) higher than a reasonable limit for only a few of the shorter children in the lowest grade. There seems no justification for using a mean, a median, or some other aver-

age as a "standard." For instance, standards have been established for doorknob heights at 36 inches. For the convenience of design, the placing of glass and panels, and other appurtenances and hardware, it might be necessary to depart from this average. In any event, a study of the physical task of pulling open or pushing shut a door shows that there is a difference between variations above optimum height and variations below so that an average is not a good standard. Therefore, upper and lower limits for an acceptable range of locations seem to be a much more practical guide in establishing specifications for the structure.

If the data from the study by Martin are used, lower and upper limits for various grade levels may be established. These appear in Table 2. In each case the lower limit is taken for doorknob heights such that only approximately 5 per cent of the pupils in the highest grade (consisting of the oldest and tallest children) would need to stoop, that is, to reach the doorknob in a position lower than hand height in an easy forward bend. This is approximately the 95 percentile of hand height in easy forward bend in the highest grade for the group

shown. The optimum figures are the average elbow heights of children in standing position for the grade level shown. The upper limit is that point at which only 5 per cent of the children in the lowest grade (the shorter children) would have to reach above shoulder height. This is the fifth percentile of the anthropometric measure, shoulder height, of children in the lowest grade of the group shown.

ERROR TO GUARD AGAINST

The results shown in Table 2 are of interest. Note that a standard height of 36 inches is within the tolerance limits for all groups above the third grade. Thus, the commonest standard for doorknob height would be acceptable. However, a better doorknob height for high schools would be 4 to 6 inches higher than this. Moreover, considerable variation from the "optimum" seems acceptable. In the intermediate grades, Grades 4 to 6 inclusive, doorknob heights between 28 inches and 40 inches may be justified if the stature and physical characteristics of the school population to be served are similar to those of the children studied by Martin. Modifications necessary in these limits may be computed by the use of actual measurements of school children and the percentages shown in Table 1.

The data in Table 2 show that the most serious error to guard against in locating doorknobs is excessive heights for the little children in the kindergarten and primary grades. Too often the curriculums, the standards of behavior, and the physical characteristics of the environment for little children are designed by adults as perceived by adults. Little children need doorknobs properly placed for little children.

This analysis may seem to be an elaboration of a simple problem. The purpose of the simple example is to illustrate the point that physical features of the school may be adapted to the human organism and its needs through:

1. Job analysis of the physical tasks of human beings.
2. Consideration of physical dimensions of human beings in relation to accomplishing the physical task.
3. Statistical techniques which take into account the variability of physical dimensions of human beings.
4. Standards as flexible as the variation in human physical characteristics will permit.



Not bad but not good. The doorknob should be at elbow height.

Chalk Dust

FREDERICK JAMES MOFFITT



Frederick R. Stevens (left), president of the Sons of the American Revolution, pins on Mr. Chalk Dust's lapel a medal awarded to him by that group for his outstanding contribution to the teaching of American history in the public schools.

MAY

(Adapted from an ancient, optimistic May Day song)

Good morning, lads and lassies, it is the first of May;

'Tis time your next year's budget is sent upon its way.

So do your daily push-ups and try to jam it through,

And when the day of judgment comes, your Board will honor you.

Good morning, lads and lassies, it's a merry time and gay;

To beck with buds and budgets—it is the first of May.

THE ANIMALS' SCHOOL

FACED BY too few buildings and too many children, many school administrators today will probably find a lot of sense in the old fable attributed to Aesop or one of his later collaborators. The allegory tells about a colony of Busy Bees who wanted to improve their education. They thereupon fired their school superintendent, who was a wise old owl, and persuaded a neighboring principal, a sly young fox, to take the job.

For a few months everything was honey and clover, and there was a great hum of satisfaction. But the Bees, as Bees do, continued to provide so many sons and daughters that the Fox felt he had to have some bigger and better hives to carry on his work. When, however, he proposed a new building program, a number of the sons of Bees began to buzz angrily

and at length, sadly stung, the impetuous Fox was driven out of the community with his tail between his legs. As he slunk away, he was heard to murmur "No matter how much honey there seems to be, there are always enough sons of Bees around to make the life of a school superintendent uncomfortable."

The moral of this tale is probably To Bee or Not To Bee.

ALICE IN WONDERLAND

The Socializing Skills

"IN OUR FURTHER STUDY of pedagogy," said the White Knight to Alice, "perhaps you would like to attend a faculty meeting."

"Would it be helpful and interesting?" asked Alice.

Ignoring the first part of the question, the White Knight merely remarked sourly, "Faculty meetings are like the shepherd's pies in the cafeteria—some are interesting, but rarely."

As Alice entered the faculty meeting, she gasped at the physical cruelty being practiced on the inmates. Teachers everywhere were stacked in classroom seats which obviously didn't hold what they were not built to hold. There was a curious air of boredom, anticipation, belligerence and pacifism which Alice learned later was the general reaction to all faculty meetings.

The superintendent spoke. "The school is being grievously attacked by forces of disaster," he said. "In order to survive, we must preplan and re-

implement the communicative arts commonly known as the socializing language skills."

"What on earth are the communicative arts?" asked Alice, sotto voce.

"He means the three R's," said the Mad Hatter chuckling. "At the present instance in civilization they consist mostly of listening to George Gobel or the \$64,000 question; of writing mean letters to the editor or the superintendent, and reading long, involved mathematical explanations from a book dealing with the Goren system of bidding in contract bridge."

Alice was completely confused. "What's the matter with the three R's?" she demanded.

"Some pedagogues have substituted crossword puzzles for Latin," quoth the White Knight cryptically, "and have bumped off the three R's for an integrated approach to the whole child."

At his whisper of the "whole child," the teachers rose and sang the school Alma Mater while the superintendent called for a moment of silent tribute. The silence was broken only by the disintegration of several tired chairs, which collapsed simultaneously.

A teacher arose. "What we need is more hours in Child Development," she said.

The superintendent, who had been looking more and more harassed, began to look more and more harassed.

"The poor fellow knows nothing about Child Development," whispered the White Knight. "He has six chil-



dren and no time or money for extra courses."

"I move we investigate the communicative arts, the whole child, and adjourn sine die," said the executive assistant, wrapping it up.

"It sounds sensible to investigate the three R's," said Alice as they yawned their way homeward.

"Inasmuch as they have been under continuous investigation for the last 50 years," said the White Knight, "I guess another investigation won't seriously impede them."

Mr. Erickson Goes to Denver

Convention of elementary school principals seen through the eyes
of—logically—an elementary school principal

A visit with NORMAN K. ERICKSON

Principal, South School, Glencoe, Ill.

by DOLORES E. HENNING

WHEN Norman K. Erickson goes to a convention he hopes to find, among other things, inspiration—from the main speakers—comfort—from learning that others have about the same problems—and help—from experts in various fields and from those who have solved similar problems.

He found all three at the annual meeting of the Department of Elementary School Principals in Denver March 7 to 10.

Mr. Erickson hastens to point out that he is not "the typical principal." Probably any one of the other 2000 persons who attended the convention would say the same thing, with equal truth.

This is Mr. Erickson's first year as principal of South School, Glencoe, Ill., and so this was the first national principals' convention he has attended. But there have been other conventions—on a smaller scale—this school year and in the past, when he was a classroom teacher.

Inspiration at Denver came from Dean Laurence D. Haskew of the University of Texas College of Education. Mr. Erickson agreed with the speaker that his ideas are "unorthodox." That's one reason he liked them.

Dean Haskew said firmly that the elementary principal "manages to turn in a very respectable performance by carefully selecting some major emphases for himself, by relying upon others for star performances also, and by sadly but firmly refusing to give himself ulcers because he is not the paragon that professors of school administration imply he should be."

The part the principal plays in instructional improvement is only one of the parts he must take, Dr. Haskew said. He has other rôles—in commu-

nity relations, in school management, in parent cultivation, in pupil guidance and control, and in numerous other areas.

"The principal is only one person; he can stretch only so far. It may be quite true that the rôle as director of community relations is so important and so time consuming as well as so uniquely a personal province of the principal that the rôle as instructional leader simply has to be relegated to minor status. The demands of some rôles are very real, very immediate, and no amount of wishful thinking will enable the principal to disregard them."

The Texas dean pointed out that the principal's rôle is "actually written in large part by the structure and operation of the school system in which he serves. It's nice for him to know what it would be good to do, but the pay-off comes from what he is given the chance to accomplish. While the principal may work to modify structure and change operations, he functions within their realities, whatever they may be."

PRINCIPAL'S SUB-ROLES

Dr. Haskew gave a list—necessarily abbreviated and deliberately incomplete—of types of sub-rôles played by successful principals in influencing instructional improvement:

Atmosphere producer. "Some principals do a wonderful job, both with a few big projects and in countless little ways, of projecting an atmosphere of optimism, of searching for the new, of building respectability for experimentation, of expecting that tomorrow's job will be better than today's, of taking pride in what and how well children are actually learning."

Prophet. "Prophets point to the new horizons, point to them with challenge and appeal. They raise new possibilities. They challenge with ideas imported from elsewhere. They distinguish the important from the routine. They put life into dead committees by showing what could be done. They produce that precious but all too rare commodity around a school—ideas."

Arranger. "Very few instructional improvements just happen. Ordinarily, someone has to make the arrangements which make things happen."

Leader. "Some excellent school principals know the limitations of their own ideas, but they make it possible for others to be leaders. Many other excellent principals have earned leadership rôles. They have studied children and books and instruction until they know. They have pondered and then produced good ideas. They have learned how groups can get results, how plans can be executed, how curriculum enterprises can be made to flourish. They have also learned to keep their mouths shut more often than open."

Cooperator. "Nothing is more praised in modern educational pronouncements than cooperation, but nothing is more rare than cooperators. Most of us have the notion that co-operating means that the other fellow should coo while we operate. Reverse that statement, and you have a rôle which many principals have played to great advantage in causing instructional improvement."

Go-Between. "In the final analysis, instructional improvement is just a dignified name for better teaching by teachers. Most instructional improvement is the result of connections established between an individual teacher

and resources which help him teach better."

Principals from all parts of the country, like Mr. Erickson, were comforted when they learned in discussion groups that other principals have problems too, and pretty much the same kind of problems. There were eight discussion groups, each with four or five sections: "Deciding What to Teach," "Evaluating the Instructional Program," "Working With Individual Teachers," "Group Planning for Instructional Improvement," "Keeping Up With Materials of Instruction," "Using Specialist Resources," "Administrative Phases of Instructional Leadership," and "Preparation for Instructional Leadership."

Leader of one of the groups discussing "Deciding What to Teach," Mr. Erickson didn't, of course, manage to take in the discussions on the other seven topics. On the basis of his own group's experience and what he heard in the halls, he is convinced that the chief value of the discussion groups lay

in learning what the other fellow had to face and how he has solved his problems or is trying to solve them or wishes he could figure out some way to solve them. If there are any final, definite, absolute answers, no one brought them up.

EXPERTS OFFER HELP

Experts in five areas—language arts, science, reading, arithmetic and social studies—offered help to the principals.

Mr. Erickson was especially interested in Helen K. Mackintosh's statements about the importance of listening. "Many individuals in this day of television, radio and sound movies often *listen* to the equivalent of a book a day," she said. "The average person probably speaks a book a week, reads a book a month (if he is lucky), and perhaps in a lifetime writes the equivalent of a book of ideas that he puts down in a creative way (excluding term papers and business uses)."

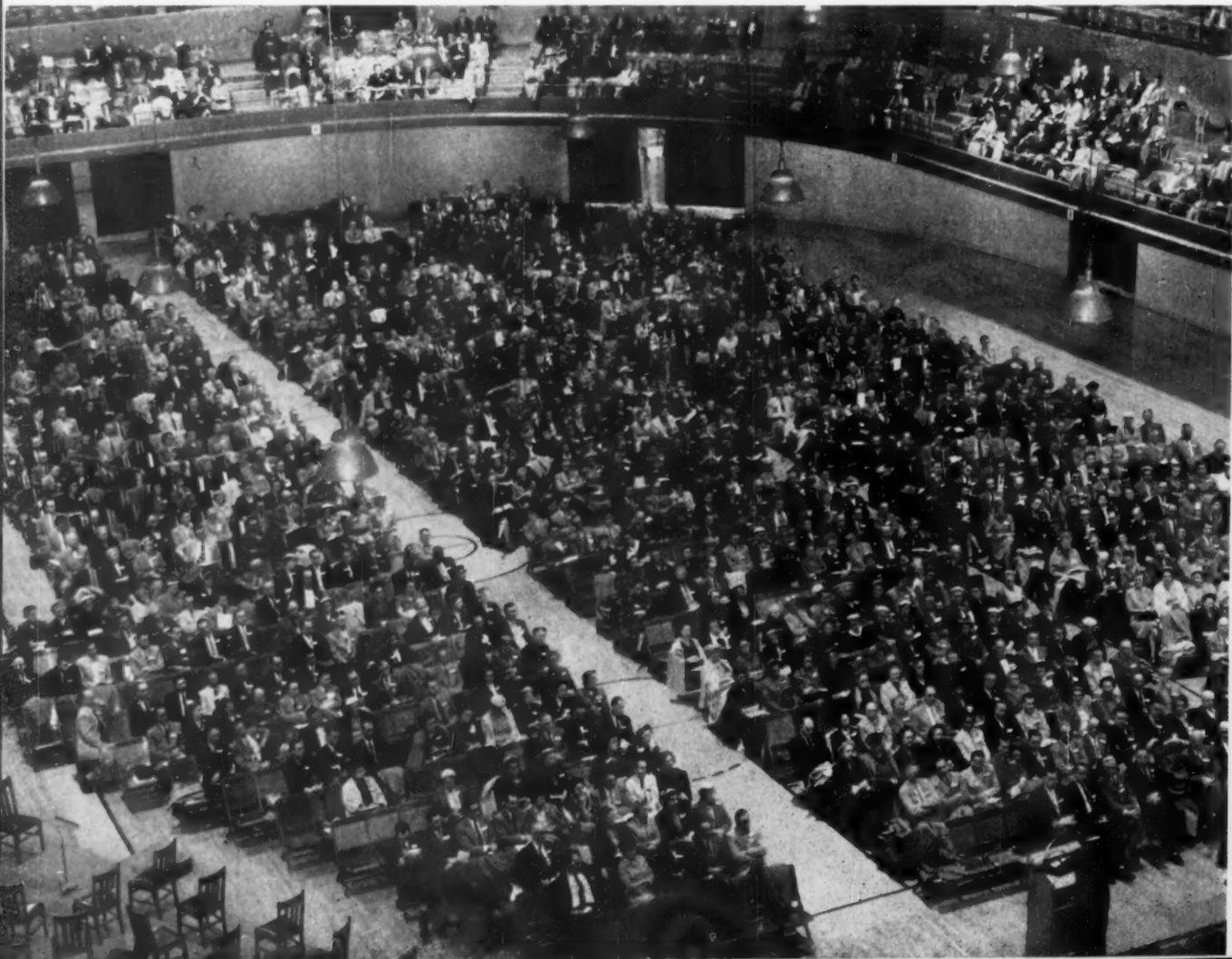
Miss Mackintosh, chief, elementary schools section, instruction, organiza-

tion and services branch, U.S. Office of Education, pointed out that "listening and speaking are often so taken for granted that people overlook the fact that there are skills involved. An infant begins to listen very early in life, to babble sounds, and to speak recognizable words usually before he is a year old. So children coming to school for the first time have had experiences in listening and in speaking. Their habits of listening may be poor. For who can tell, be he a teacher or a principal, whether a child is listening even though his face seems to tell us so?"

The science program described by Glenn O. Blough, associate professor of education at the University of Maryland, is pretty much the science program of all the Glencoe schools, Mr. Erickson was happy to learn. The idea for consideration, said Dr. Blough, is: "Are we providing sufficient meaningful opportunities in science to meet the needs and interests of children who live in what we blithely term 'the scientific age'?"

Some elementary school principals, Dr. Blough pointed out, have devel-

Elementary principals at one of the general sessions at their annual convention in Denver March 7 to 10. Two thousand attended the meeting.



oped good science programs in their schools by encouraging their teachers to try science teaching and not expecting perfect performance in the first trials. They have provided and made easily available equipment and supplies, books, outlines, resource units, courses of study, and other guides. They have educated themselves in science; they have become acquainted with published materials and with successful practical procedures.

"Perhaps the first essential of a good reading program today is concern for and action to develop children's interest in reading," said Nila Banton Smith, professor of education and director of the reading institute, New York University. Dr. Smith also discussed other fundamental growth areas in reading: word recognition, meanings, study skills, and fluency and speed. She gave the principals check lists they might use in assuming their rôle of leadership in improving reading instruction in their schools.

Esther J. Swenson, professor and chairman of the department of elementary education, University of Alabama, stressed five points about arithmetic:

"1. The whole school faculty should seek to understand and agree on the basic objectives of the arithmetic program in the school.

"2. Arithmetic itself should be well understood by all the teachers.

"3. Teaching and learning procedures should be developed in terms of the logic of the subject matter and the psychology of the learners.

"4. Teaching and learning materials for a good arithmetic program should be chosen in such a way as to further the program described.

"5. If points 1 to 4 are observed, there should be no artificial contrasts between the concrete and the abstract, between meaning and practice, or between the mathematical and social phases of arithmetic as a school subject."

John U. Michaelis, professor of education at the University of California, whose subject was the social studies, pointed out that "the development of democratic citizenship is a major concern of both citizens and educators. A balanced curriculum is essential to the development of citizenship in our times. Neglect of any area of the curriculum, or overemphasis upon a single area, inevitably leads to imbalance in children's learning."

WHAT TEACHERS EXPECT

Principal Erickson doubts that many teachers, like James W. Gail, spend 90 per cent of their time with 10 per cent of their pupils. But he does think that Mr. Gail, a Denver teacher, did a nice job of explaining to the principals what teachers expect of them in the way of instructional leadership.

Mr. Gail pleaded for help in dealing with the 10 per centers—the child "in the upper or lower 10 per cent mentally, or the child with exceptional emotional problems, a severe physical handicap, dire financial need, home and family conditions beyond the scope of being effectively dealt with by the classroom teacher, or a combination of these." He's not uninterested or unsympathetic; he just doesn't feel able to cope with these children's problems adequately, and he'd like to have more time for the other 90 per cent.

It seems to Mr. Gail that the task of the principal is to make it possible for the classroom teacher to carry out the prime function of the school—instruction.

A principal, he said, is many things to many people—a dietitian, a motor-

pool sergeant, a supply clerk, a practical nurse, a truant officer, a receptionist, a stationary engineer, a mother, a college professor, a marriage counselor, a psychoanalyst. But above all he is a teacher. "The groundwork has been accomplished which will enable you to be an instructional leader only when you think of yourself as a teacher and your staff also thinks of you as a teacher."

Principal Beatrice O'Brien of Los Angeles agreed with Mr. Gail that a special teacher to work with slow learning and fast learning pupils may be needed. Principals should also consider whether they need a vice principal, a guidance person, and clerks to do the clerical work, she said.

With such help the principal may be able to come out from behind that mound of administrative detail and act as an instructional leader—that is, if he wants to. If he doesn't feel capable of offering such leadership, Miss O'Brien suggested he'd better start studying—reading professional literature, taking college courses, or attending local inservice courses or workshops or conferences of local, state and national organizations.

Mr. Erickson thinks the Denver meeting was a well planned program, with a nice balance of subject matter and method of presentation. Participants didn't have to rush constantly; there was a half day for sightseeing; there was another half day during which principals could observe in the Denver schools.

Unwilling to be original on this subject, Mr. Erickson said he agrees with most convention-goers that one of the most valuable things about a convention is the opportunity to talk with others in the hallways between meetings. There's another value too—"just the chance to get away and get a little perspective on your problems. One can get terribly concerned about minute details; occasionally he needs to have his sights lifted to more challenging and more important things."

OFFICERS ELECTED

New officers of the Department of Elementary School Principals, elected by mail ballot before the convention, are: president-elect, Robert N. Chenaault, Nashville, Tenn.; vice president, Bernice Smith, Garden City, Kan., and members at large, Basil Rohrer, Evansville, Ind., and Ralph Eudaily, Missoula, Mont. President this year is Mathilda A. Gilles, Salem, Ore.



On the topic of

EDUCATION IN 2000 A.D.

Fabulous Future Challenges Imagination

Focus Attention on Human Values

PEARL A. WANAMAKER

*Washington State Superintendent
of Public Instruction*

OUR look into the fabulous future discloses a technological wonderland; it also carries a challenge—to direct this technology toward human ends, to focus adequate attention on human values, to attack the major issue of our times — problems of human relationships.

We may confidently expect the technology of the future to contribute materials and technics that will help the teacher. However, in order to direct technological improvements toward improvement of human living, it will be necessary that we have teachers who are well rounded in their appreciation of human values. As never before, teacher education programs will have to center upon the development of teachers who have warm human qualities and who are more concerned with *how* the wonders of 2000 A.D. are used than with particular inventions as such—just as we should be more concerned today with the quality of television programs than with the fact that television is now possible.

NOT A TECHNICIAN

This means that teacher education programs will increasingly be concerned with problems of child development, with the ways in which people learn, and with the nature of the current culture. These will not be handled simply through technics of operating new machines. We would

indeed be deceiving ourselves if we thought that the teaching process would become less personal and more mechanical. In brief, the teacher of tomorrow will need even more than today a broad general education. He will need to be, as today, a well rounded person and not merely a technician.

To provide an educational program which utilizes our technological advances while focusing on human values, school districts must remain close to the people, school districts must be large enough to support a strong educational program but not so large that human values are lost in the process. The human factor in the equation makes it essential that basic principles of local school district operation be preserved.

School districts will be called upon to provide ever broadening services—to children, young people, adults with more leisure time, adults who have retired at an early age.

BROADER FINANCIAL BASE

A broader base will have to be used to finance such programs. Growing interdependence within our country, increasing mobility, and growth of residential areas at a distance from industrial and urban concentrations will underline this need for greater equalization of opportunity and school support.

Financing of the schools should become as automatic as time payments on a new car or payroll deductions for income tax purposes. A broader program and enriched opportunities for more people will necessitate creative thinking as to school finance. A more complex, technological culture will require creative thinking to keep human values continuously before us.

Skeptical About Television

WILLIAM L. GRAGG

*Superintendent of Schools
Ithaca, N.Y.*

EVERY superintendent who has the good fortune to find a few minutes to dream inevitably projects in his mind a school system as it will look 50 years hence. The article by Dr. Walsh is the first real attempt I have seen to put the dream down on paper.

Anything I might say to take issue with the author simply reflects a different personality talking about a different dream.

NO REVOLUTION

I will support Dr. Walsh in nearly everything he says, because I believe in the statistical trends that all of us can observe. His dream deals more with gadgets than with ideas, more with technological aspects than with human relationships. I have been among those reactionary individuals who fail to foresee the replacement of classroom teachers with TV screens. I like TV. I think it makes a wonderful contribution to culture, despite a few horrible exceptions. But I can't visualize a revolution in the classroom via the television tube, any more than radio revolutionized instruction. And radio has been around a long time.

I think my reservations stem mainly from one premise: that while scientific change goes on unabated, man, himself, seems to turn out about the same model each generation. We are building jet planes that can surpass the wildest speculation, but we are

**Here a state superintendent, three city
superintendents, and a dean see further implications
in Dean Walsh's forecast made last month.
At least one of them expects to be around
at that time to see who's right.**

having trouble finding men who can fly them and survive.

I am still young enough and I have faith enough in the improvements in medical science actually to hope to see the year 2000. If Mr. Walsh is entirely right in his predictions, I will, at that time, apologize for any doubt that I may have cast in this review.

Master Teachers for a New Age

LINDLEY J. STILES

*Dean, School of Education
University of Wisconsin*

IN HIS interesting predictions concerning education in 2000 A.D. Dr. Walsh briefly suggests that the concept of the "master teacher" will emerge. He then elaborates with enthusiasm upon the marvelous mechanical aids which will be available in every well equipped classroom.

As I read about such wonders as individual desk-top TV screens, electronic and self-cleaning classroom writing spaces, speed and color adjustable magnifiers for reading, and magnetic tape photography, my mind kept returning to what I consider to be the most significant prediction in the entire article: In the year 2000 A.D. there will be *master teachers*.

MACHINES CAN'T TEACH

The development of master teachers will be the crux of the vastly improved system of education necessary for man to produce and control a kaleidoscopic age. After all, machines may be used effectively by good teach-

ers, but, by themselves, they cannot teach. They are merely tools for use in the teaching process. They cannot decide what should be taught, nor can they select and organize content to make it easily mastered. They cannot even judge whether "Johnny" is learning properly. Machines may facilitate learning, but they can never replace the teacher in the educative process. Machines under man's direction may bring the world, condensed and in color, with sound accompaniment, into the classroom, but they cannot bring the joy to a child's heart or the excitement to his mind that is supplied by the human warmth, understanding and inspiration of a devoted and capable teacher.

Joining in the spirit of Dean Walsh's glimpse into the future, one might speculate as to what it will take to produce "master teachers" for the schools of 2000 A.D. If such teachers are to be developed, first of all young people with the keenest minds, as well as the best personal qualifications, must choose to teach. Their education must be subsidized, if necessary, and the rewards of teaching must make it a "first choice" professional field.

PREPARING MASTER TEACHERS

The preparation of master teachers for elementary and secondary schools might possibly include a minimum of four years of liberal or basic education beyond the secondary school plus at least three years of graduate and professional preparation.

The latter will, of necessity, place continuing emphasis upon the content of subject fields to be taught as well as upon the theory and practice of teaching. Beyond the years of graduate study, during which the prospective teacher will have attained a level

of education equal to that achieved by the holder of the doctorate today, we might imagine that the prospective teacher will engage in a two or three year supervised internship. The period of preparation for teaching will not be extended as much as it might appear since by 2000 A.D. brighter students will undoubtedly move through their studies more rapidly.

EXAMINATIONS REQUIRED

We might guess, further, that in another 50 years all teachers will be required by members of the profession to pass rigid written and oral examinations—in general culture, the subject fields of their specialization, and the applied aspects of the teaching process—in order to be admitted to the teaching profession and to be legally certified for teaching. Such examinations will probably be taken prior to the internship assignment. We might also predict, or perhaps it is just a hope, that by the turn of the century the preparation of teachers will be so completely recognized as a function of the entire institution of higher learning that all college and university professors, regardless of their fields, will cooperatively and harmoniously bring their energies and intellectual resources to bear upon the important task that is jointly theirs—the preparation of *master teachers*.

New Meanings for Schoolhouse Planning

HOLLIS A. MOORE

*Superintendent of Schools
Tyler, Tex.*

WHAT about education in 2000 A.D.? That question intrigues me even though it seems so very remote that my first reaction is to pass it off as of no concern to me. Then when I realize that the buildings we are constructing now cannot be written off as an expendable item during that span of time, I begin to see the implications of the question and the responsibilities that we must assume for the kinds of school plants we bequeath the young people of 2000 A.D.

It is expecting too much of us to assume that we can predict precisely the kinds of educational experiences

that society will provide for its youth in 2000 A.D. But it is not expecting too much of us to assume that we who are planning and equipping buildings, struggling with curriculum offerings, and determining the teacher training programs will at least recognize the inescapable fact that we are approaching a new era in which education will play an ever increasing part in the development of youth.

Here are some specific implications that deserve consideration in terms of education in 2000 A.D.

The Curriculum and Instruction Program. The tremendous body of knowledges and skills necessary for successful living in this stepped-up period of technology and automation will require careful screening on the part of the schools in order that the education process may be speeded up. Accelerated learning requires the use of many types of equipment and facilities not found in our classrooms today. Education will no longer be taught in terms of certain age brackets of our population but as a continuous process available to all who can profit by the experience. We should think in terms of a reorganized subject matter which will lose the identity of the typical high school unit. Teachers may have to be highly specialized technicians as well as persons who have broad general backgrounds of knowledge.

In order to permit the highest possible development of the individual in terms of the economy of time, learning must be accelerated. Some may desire to stay in school continuously for a considerable period of time while others will be in and out of school and will engage in related occupational activities paralleling school experiences, thus requiring a longer period of time to complete the school program.

School Building Facilities. Perhaps the most important consideration that should be given to school buildings and the design of school buildings today for the education of 2000 A.D. is a matter of flexibility and adaptability. The typical laboratory in today's school will not meet the demands of laboratory experiences for 2000 A.D. There is every reason to believe that in some areas of instruction large groups can be taught effectively. In other areas smaller groups will be the order of the day. The greatest challenge to those who are designing

school buildings today, therefore, lies in the areas of design that permit flexibility and adaptability to the changing needs of classroom procedures. Year-round conditioning for comfort in terms of heating and cooling is inevitable. It follows, therefore, that the installations of present facilities should be designed in such a way as to permit replacements with a minimum of difficulty. Variations of types of seating and school furniture within a given area will replace the monotony of today's standard classroom furniture. Perhaps the greatest advance in school equipment will come in the mechanical features for instructional purposes that also require manipulation to supplement technical knowledge. If we are to prepare people to live in the age of automation, it follows the school must provide those experiences that permit successful living in such a period. The opportunity to master these technical skills and knowledges in various areas cannot be confined to youth but must be made available to all segments of our society.

As we contemplate the educational possibilities of 2000 A.D., we are impressed with the ever increasing importance of the rôle of the teacher in our society. Teaching takes on new meaning, and education rises to new heights in the world order. We who are responsible for tomorrow's schools built today must accept the challenge and the responsibility for designing schools that will contribute to the growth and development of individuals in the capacity to live successfully in the complex order of which they will be a part in 2000 A.D.

Calls for Real Educational Research

I. J. BROWDER

Superintendent of Schools
Gadsden, Ala.

VERY intriguing are the predictions made by Dr. Walsh as he peers into the future—not too distant future at that. In fact, he points up very interestingly the challenges that are to be our immediate concern as mysteries of nature—many of them already solved or virtually solved—

unfold before us. Some of his speculations sound somewhat absurd. For example, the idea of a device for acquiring knowledge while sleeping. But we must remember that the fantasies of yesterday are realities today—in many instances.

Forty-four years ago we were spending virtually nothing on research in this country. Today it is estimated we are spending \$2 billion or more on research. In the fields of fission of heavy metals, fusion of lighter elements, ultrasonics, solar energy, and wind tunnel experiments, miracles are happening. Many things undreamt of today by any of us are inevitable—things that will greatly change much of our way of life.

If we are to meet the challenges of our times we must find a way to finance real research in education—not a mere pittance of a few thousand dollars here and there. Millions should be spent to chart scientifically the way of education for the future, to be certain that our educational plans and procedures do not lag behind in the rapid advances in the decades ahead. The cost will be high, but if we fail to pay it the cost of our failure may be too great for those who come after us.

This is not a problem for the professional educator alone. It is a matter of great concern to the economist, the political scientist, yes, and to those concerned with national security. Our utilization of the tools that will be placed in our hands, our ability to adjust ourselves to completely different schedules of living, and our ability to continue to fill our place in the family of nations and maintain a favorable position among them—all these and much more depend upon the adequacy of educational processes in the years ahead.

We must be sure that we know just what "jet age" education is like. Rule-of-thumb decisions about matters of this sort are terribly dangerous. The obvious plea for scientific research in this field hardly needs to be repeated. We need to know all that can be known now about prospects of changes in the future that will impinge appreciably on the processes of education. The nation's educators not only should be aware of impending changes but should help bring them about. The most dynamic force in any community should be its school system.

The article by Dr. Walsh presents quite a challenge—and well.

ACCENT on creativeness highlighted the 11th annual convention of the Association for Supervision and Curriculum Development, meeting in New York March 19 to 23. In spite of transportation difficulties because of belated winter weather, some 22,000 delegates and visitors spent most of the week attending the more than 75 group discussion meetings.

Robert S. Gilchrist, superintendent of schools at University City, Mo., took over the gavel at the close of the convention, succeeding as president Gordon N. Mackenzie, head of the department of curriculum and teaching at Teachers College, Columbia University.

The three general sessions considered a related sequence of topics: creative *thinking*, creative *living*, and creative *teaching* for creative thinking and living. Leading the discussion on creative thinking, President Harold Taylor of Sarah Lawrence College, Bronxville, N.Y., said:

"I do not believe that schools and colleges should be merely the agencies for transmitting American middle class values. This is, in fact, what they usually are, when they should be agencies for transforming and re-creating the values of each generation.

"Newer theories of education in this century have broken with conservative doctrine. Each generation of children has its own truth, each child has a fresh start, and the institutions of education should be agencies of creative effort by children and teachers together for adding new insight and new ideas to the present fund of knowledge and custom. This demands a positive, not necessarily permissive, attitude by the

Creative Living and Teaching Concern A.S.C.D. Convention

teacher toward the student, one which looks toward him expectantly for a fresh outlook and a new truth."

Speaking on the same topic, Gardner Murphy, director of research for the Menninger Foundation at Topeka, Kan., declared that "the right to inquire is at the very heart of the spirit from which all creativeness develops. It is our task to show that research in education, in psychology, and in the social sciences can still move apace toward the definition of a kind of freedom of teaching, of learning, of discussion, and of inquiry which, however threatened, must be vigorously defended."

Among those interviewed at press conferences was Robert Fleming, chairman of the department of early childhood and elementary education at New York University and chairman of the A.S.C.D. commission on educational research.

The commission, said Dr. Fleming, is concerned with helping teachers to become better consumers of research and encouraging them to participate in a research approach to their own problems. He emphasized that research should be done by teachers in the school and that administration should create settings for satisfactory work.

When asked specifically who should provide the settings, he said it is the principal's job to foster leadership in this respect. When asked about the responsibility of the chief school administrator, he replied that the superintendent needs to rediscover the teacher in the classroom, to know what's going on. His rôle among other things is (1) to make adequate provisions on his staff for research personnel, (2) to provide research facilities for the teachers, (3) to schedule time and opportunities for teachers to work together, (4) to make consultants available, and (5) to train leaders for the research approach to improvement of teaching and the curriculum.

Also interviewed was H. Gordon Hullfish, professor of education at Ohio State University and chairman of the A.S.C.D. commission on forces affecting American education. His opinion was asked on the sudden increase in the number of workshops being offered by business and industry which teachers are invited to attend with all expenses paid. Frequently the administration and the curriculum of the workshop are planned by the industry or business.

Dr. Hullfish commented: "Teachers who attend such workshops will learn



Rodney Tillman (left), newly appointed executive secretary of A.S.C.D. Below: The retiring president, Gordon N. Mackenzie; the incoming president, Robert Gilchrist, and the president-elect, G. Robert Koopman.



a lot about a given facet of life, but they need to be careful that they do not innocently become propagandists for a special interest group. In other words, they need to be aware of what they are getting into."

Asked his opinion of unilateral alliances between education and any other interest group, specifically of the relationship between education and organized labor, he said:

"While I recognize the freedom of the individual to join whatever organizations he chooses, public education itself cannot be organized to represent any one segment of American life."

Asked to define what was meant by "forces" affecting American education, he described "forces" as an organized or expansive pressure that impinges upon education or holds it in its status quo. Some such forces are supporting education, others are impeding it. "I think the public is ahead of the profession in its thinking about education, in its realization of what education can do and can be."

In answer to another question, he said that the educational lag is becoming more serious today because of rapid social change and the seriousness of the total world situation.

What can we do about it? he was asked. "For one thing," he said, "we could do more research. We need more research to show the seriousness of this lag and to convince the profession that we need to accelerate our efforts."

DEPLORES TEACHERS' MEEKNESS

Another interview was with Robert Anderson of the graduate school of education of Harvard University, chairman of the A.S.C.D. commission on crowding in our schools.

"I hope that our meeting this week will serve to give the profession the 'hot foot' in a nationwide attack on oversize classes," he declared. "Teachers are meekly tolerating impossible conditions instead of going up to their school board — in individuals and groups — to get something done about them."

He proposed a three-pronged campaign. First, he recommended research; second, an advertising campaign; third, giving the "needle" to those in the profession of teaching.

He recommended the gathering of further data and the encouraging of doctoral studies pertaining specifically to the problem of overcrowding. As one example of meeting the situation,

he referred to the practice of Flint, Mich., El Paso, Tex., and other places where small homes are put up rapidly and used temporarily for classrooms. He mentioned also that building codes are causing some school districts to spend much more than is really needed for safe and efficient schoolhouse construction.

Resolutions adopted at the annual meeting called upon A.S.C.D. officers to exercise vigorous leadership in eliminating membership restrictions (segregation of minority groups) in affiliated state and regional groups where such restrictions exist and urged

members "to provide constructive leadership in advancing continuously toward the racial integration of the education of all children and youth."

Another resolution recommended the appointment of a commission to study "the need for a wide variety of experimental projects in teacher recruitment, teacher preparation, and the better use of teacher competencies" but qualified this recommendation with a proviso that "all such experimentation and its evaluation be directed toward fostering sound educational policies and practices and not be based upon expediency to meet emergencies."

Impetus to Science Teaching

**comes from National Science Foundation,
from teachers themselves, other sources**

CURRENT interest in the development of scientists focused more than usual interest on the meeting of the fourth national convention of the National Science Teachers Association in Washington, D.C., March 14 to 17. Proposals receiving much consideration included (1) expanding activity on the part of the federal government in the field of science teaching, (2) stepping up science instruction into a well integrated curriculum, and (3) giving attention to the rapid learner.

SKETCHES FOUNDATION PROGRAM

Alan T. Waterman, director of the National Science Foundation (established by Congress in 1950), in mentioning some of the things government can do for science instruction, made it clear that "whatever is done to improve the lot of science teachers will redound to the benefit of teachers in all fields and that is what we desire." Foundation achievements and plans include:

1. This year, 21 grants have been awarded to colleges and universities for the support of summer institutes. During the first three years the Foundation supported 17 such projects.

These institutes will be widely separated geographically and will cover a broad range of science subject matter.

The grants include stipends for about 50 teachers in each institute sufficient to cover expenses for the program, which ranges from four to eight weeks in length. Additional allowances for dependents are also provided. Nine of the institutes are exclusively for high school teachers of science; five are for college teachers only, and seven are open to those in either group.

2. Two experimental academic year institutes for high school science teachers are planned for next fall. This program, which is being carried out with the cooperation of the University of Wisconsin and Oklahoma A. & M. College, will offer courses of study in science and mathematics designed especially for inservice teachers and planned cooperatively by the science, mathematics and education departments of the cooperating institutions. Curriculums will be adapted as much as possible to individual needs, and will be accepted in partial fulfillment of the requirements for M.A. degree.

Stipends of \$3000 each will be awarded to 50 high school teachers on leave of absence for the purpose of attending the institute. Additional allowances for dependents and limited support for travel will also be provided. High school science teachers

with a minimum of three years of teaching experience are eligible to apply. Committees in the host institutions will select the participants.

3. The Foundation plans, during the coming year, to expand its fellowship program to include faculty fellowships. This program is designed to improve standards of college science teaching.

In addition to these plans "that take the teacher to science," the Foundation has other projects designed "to carry science to the schools," Dr. Waterman said. These include:

1. The visiting lecturer program introduced by the Mathematical Association of America. This group selected five eminent mathematicians, who were available most of the academic year 1954-55, for week-long visits to small colleges.

2. Support for the American Chemical Society and the American Institute of Biological Sciences in the conduct of similar programs.

3. A traveling library program for high schools. The Foundation is supporting the A.A.S. project, involving circulation of selected science books to small high schools.

4. The traveling science demonstration program. In the academic year 1956-57 the Oak Ridge Institute for Nuclear Studies will conduct a pilot program supported jointly by the Atomic Energy Commission and the Foundation. Eight science teachers will be given a special course of training at Oak Ridge. Each teacher will be provided with a station wagon equipped with instruments and apparatus that will enable him to demonstrate important principles of physical science not commonly taught in high schools. Beginning next September, the eight trained demonstrators will pay one-week visits to more than 200 high schools during the course of the academic year. They will instruct teachers in the construction of simple apparatus for use in science teaching.

5. Support and encouragement of efforts to improve science curriculums at both the secondary and college levels.

These efforts have taken the form of conferences designed to bring college teachers and eminent research scientists together for the purpose of considering recent scientific developments and their proper place in the curriculum. Another type of conference designed to improve science curriculums brings together for given fields of science a number of eminent scientists, college teachers, administra-

tors and representatives of state education departments for the purpose of coordinating the region's total science teaching program.

6. Support for the American Association of Physics Teachers' systematic study of curriculums for general courses and for a similar study by the National Research Council in the field of biology at the secondary school and introductory college level.

TELLS H.E.W. PROGRAM

Also discussing the position of the federal government in the field of public education, Herold C. Hunt, under-secretary of Health, Education and Welfare, told the convention that the department is:

1. Putting special emphasis on the education of the mentally handicapped.

2. Trying to find better ways to help children with outstanding abilities utilize their advantages.

3. Looking into the relationship of schools to juvenile delinquency and the educational problems which result from the fact "that we are a people forever on the move."

4. Planning to explore the possibilities for a much wider use of television in our educational system.

In framing its legislative proposals the Administration has "necessarily borne in mind" three cardinal principles: (1) that the primary responsibility for providing public education and operating public schools is properly a state and local function; (2) that federal legislation must be so designed that there will be no slackening of state and local effort, and (3) that federal assistance "must be so distributed that the greatest assistance is placed where there is greatest need."

FOR RAPID LEARNERS

A. Harry Passow, associate professor of education and research associate, Horace Mann-Lincoln Institute of School Experimentation, Teachers College, Columbia University, discussing the development of a science program for rapid learners, said:

1. It should begin early, long before the secondary school. "It may not be possible in the elementary schools to determine who will be the scientists and who the nonscientists. But the rapid learner is marked by intellectual precocity which could benefit from early discipline of work habits, attitudes and study skills."

2. Science at the secondary school level has a place in the general edu-

cation of all rapid learners. "However, science programs will have to be developed that meet both common and individual needs."

3. Laboratory experience should be focused on problem solution rather than on material manipulation.

Declaring that science course sequence and content can stand re-examination, he said we may find that:

1. The content of existing courses can be acquired by rapid learners in far less time than is now spent.

2. We need to establish multiple tracks within a class or among several classes.

3. We need to integrate science with other disciplines—mathematics, humanities or social studies.

4. Modifications are required only in the methodology used or the materials and facilities required.

MORE GENERAL EDUCATION NEEDED

Ralph E. Gibson, director, Johns Hopkins University Applied Physics Laboratory, discussing the need for a general education as well as training for a profession, said:

"Preparation for leadership requires that training for a profession be preceded by general education, but the exigencies of specialized training have tended to crowd this necessary preliminary out of university programs and it certainly is not being supplied by the high schools."

The mental habits to be cultivated, the faculties to be exercised in a general education designed to fit a man for leadership in science or in engineering, were summarized as follows:

1. The capacity for clear and fluent communication with other people, the outside world, and with oneself.

2. The capacity for and acquisition of knowledge and experience—building up a well stocked mental inventory.

3. Habits of discipline and continual critical analysis to distinguish valid from trivial experience.

4. Power of building consistent mental patterns of knowledge, the basis for understanding and judgment.

5. Cultivation of imagination and intellectual courage, the association of ideas, the building of new patterns of thought, prediction of their consequences in opening areas of new experience, the courage to pursue these consequences to the bitter end.

Glenn O. Blough, associate professor of education, University of Maryland, was elected president of N.S.T.A.

OPINION POLL

Most superintendents favor merit rating in principle, but they aren't willing to put it into practice

A nationwide sampling of superintendents by *The Nation's Schools*

SUPERIOR teachers are going to get their reward this side of heaven—if they live long enough. They are going to get it just as soon as school administrators find out how to do what they know is right and just in this regard. Naturally the earthly reward for superior teaching is going to be earthy old coin of the realm.

If school administration is for cash rewards for superior teaching who can be against them? The school board? Not so as you can notice it. Schoolmen say it is the teachers themselves. If so, will method cure their madness?

Finding that merit rating is a top controversial issue wherever school folk gather under one roof, *The NATION SCHOOLS* chose it for the topic of its May opinion poll.

When it comes to the principle of "paying the teacher somewhat in accordance with the quality of his or her teaching," schoolmen of the nation come out with an 86 per cent Yea. Working as closely as they do

with their boards of education, these schoolmen think that the school board is of the same opinion in 82 per cent of the cases.

However, school administrators guess that the majority of teachers think differently. Fifty-eight per cent think teachers are opposed to it in principle. And when they are it's because they are frightened.

Some administrators, too, are wary—not of merit rating in principle but of merit rating in practice. (Maybe that's what the teachers fear, too.) Administrators would welcome merit rating as a morale builder if they didn't fear it as a morale smasher.

"NOT A PROFESSION"

Yet, as a California administrator said, in returning his questionnaire: "Education can never be a profession until competence is recognized in pay."

Lip service to merit rating, it appears from replies to the poll, is likely to continue until there are adequate

criteria for evaluating teacher effectiveness.

"I may try merit rating after I know the names of a few schools that practice it successfully," said one. Mr. Doubter, meet a man from eastern Washington, who declares:

"Our consolidated school employs from 50 to 60 teachers. We have been giving extra pay for superior teaching for eight years. This policy has enabled us to employ superior persons for the most important teaching positions in our schools; it has enabled us to hold them. In granting extra pay for superior teaching, we have considered the standing of the teacher with the students, parents and principals. The school board and the superintendent have been the final judges.

"We believe that our country has progressed because of individual initiative and that many times a salary schedule promotes mediocrity instead of promoting the best efforts of teachers. If some of our teachers have been unhappy because of our salary system, they have left the system. I have been a high school principal in some of the largest schools in our state, and so far I have had a most enjoyable time managing this school system with a merit pay system."

From Michigan comes this comment: "The merit teacher idea sounds very good, but you will discover it is difficult to put into operation and to administer. When our teachers discuss any such proposal I always ask who will be the first to volunteer to be on a committee to evaluate the worthiness of his or her colleagues for salary privileges under merit rating. So far I have no volunteers."

COMPLETE DISBELIEVER

A complete disbeliever is Supt. E. A. Sahm of New Braunfels, Tex.:

"I spent five years on the problem of measuring teachers objectively," Mr. Sahm declares. "I had to abandon the study. Many others have done likewise.

"If any merit salary system is adopted, teachers will be at the mercy of incapable and probably prejudiced 'amateur judges,' purely subjective in their efforts. There will be a clamor to gain favor, to provide special privileges for those who do the judging. Jealousies will arise among teachers, which will disorganize the morale of a school system.

"Teaching is not a production line. It cannot be evaluated by the amount

EXTRA PAY FOR SUPERIOR TEACHING?

1. Do you favor the principle of extra pay for superior teaching (that is, paying the teacher somewhat in accordance with the quality of his or her teaching)?
Yes 86% No 14%
2. Do you think your teachers favor this principle?
Yes 42% No 58%
3. Do you think your school board would favor this principle?
Yes 82% No 18%
4. Should the rating of a teacher's superiority be solely the responsibility of the administrative staff and the board?
Yes 43% No 57%
5. If extra pay is to be granted for superior teaching, should any of the following groups participate in helping to identify the superior teacher:
a. Fellow teachers 51% b. Parents 26% c. Children 23%

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of work turned out, such as is possible in industry. I cannot conceive how anyone trained in school administration could support such a preposterous scheme. Better stick to the single salary, widely and successfully used now."

A number of respondents pointed out the difficulties that would arise with "borderline cases." Others would give superior teachers extra duties and pay them for those.

PHILOSOPHY DIRECTED BY PRESSURE

A New Yorker would take strong issue with our Texas disbeliever. "How can school administrators justify their educational leadership when their philosophy is directed by pressure?" he asks. "The policy of recognizing superior teaching is morally sound and is merely a continuation of what all teachers teach, i.e. that ability and industry are rewarded. Education, the mother of the American dream, cannot deny her own child by ruling all teachers into a common salary groove. There will be no more errors in selection made by administrators (who have vital stake in their judgments) and boards than would be made by

any other method of selection, nor is this method incompatible with similar pay and promotion systems in the commercial, military and religious worlds.

"The attitude of teachers on this matter is extremely bigoted and hypocritical. In their own classrooms they admire the superior student and give him more responsibility and privileges, but let them step into a faculty meeting and their personal problems help them rationalize—'equal pay for equal work,' 'across the board raises,' etc."

Our New Yorker brings us to Questions 4 and 5 in the poll as to who should rate a teacher's superiority. Democracy in administration is not a myth, for 57 per cent of the respondents do not regard the rating of teachers to be solely the responsibility of the administrative staff and the board. The majority (51 per cent) would like fellow teachers to have a hand in establishing merit ratings. A fourth of the respondents (26 per cent) think parents might well be represented in the rating process, and almost that proportion (23 per cent) would bring the children into the rating effort.

In regard to teachers helping to

rate their colleagues, one respondent replies: "Inasmuch as fellow teachers would not know of classroom success of others, I would favor some plan in which they could evaluate professional attitudes, ethics, loyalty, community service, and the like.

"Groups—superior, average, low—formed on a total score basis would be a better approach than individual appraisal. The administrator's score of possible points might be 8, the supervisor's 10, fellow teachers, 8, and parent opinion, much smaller, to a possible total of 28 for superior teaching."

POPULARITY ISN'T COMPETENCE

A superintendent from Massachusetts would not permit teachers or parents or children to take part in the ratings. "Real competence would become confused with popularity," he believes.

Here is a voice of experience in regard to student ratings: "For a number of years my high school students evaluated the work of high school teachers. I found senior students to be very discerning; juniors were somewhat less discerning; freshmen were inclined to take the teacher's word as to whether she was a good teacher. There is a great amount of evidence that poor teachers can build themselves up with elementary school students and with parents of elementary pupils by political means. If an elementary teacher tells her pupils, 'I am an outstanding teacher,' they are inclined to believe it, as are the parents."

To sum up, it would appear that if school administrators have certain principles, they must use blood, sweat and tears to implement them rather than say, as so many did in replying to this questionnaire: "Yes, we believe in merit rating, but it's impossible to practice it."

TO STUDY PLAN

They might better follow the plan of this administrator (the blurred postmark on his return appears to be from an indistinguishable town in "Ark."); "Teachers have been advanced by almost automatic salary scales for so long that a period of education and study of merit rating is essential. Our school system will spend the coming year in such a study. A committee made up of lay people, teachers, school committee members, and the administrative staff has been established. It is hoped that an acceptable plan will be formulated by budget time in December 1956."

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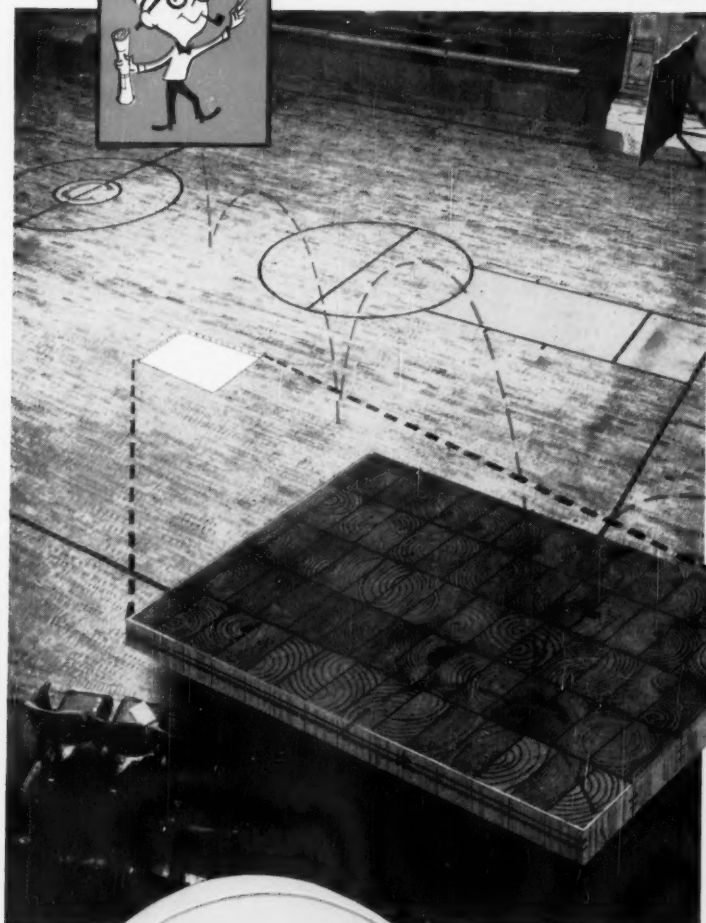
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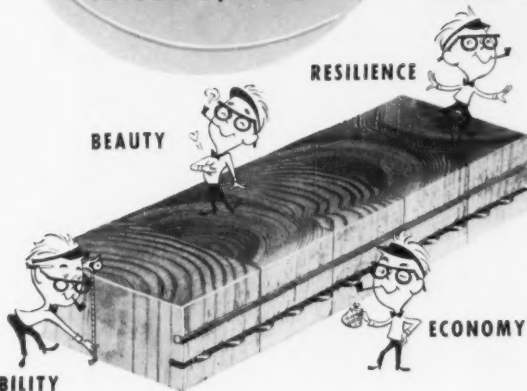
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Visual Aids—More Work but Worth It

Department of Audio-Visual Instruction meets in Detroit

WALTER WITTICH

Director, Bureau of Audio-Visual Instruction, University of Wisconsin

THIRTEEN HUNDRED supervisors of instruction, audio-visual directors, and coordinators attended in Detroit March 12 to 16 the largest audio-visual instructional materials annual meeting in the history of the Department of Audio-Visual Instruction of the N.E.A.

Facing up squarely to the increasing problems of instruction, expanding enrollments, and programs for inservice instruction, audio-visual experts, teachers and school administrators addressed themselves to the problems of reading, language arts, the social studies, and

other areas of instruction—as they attempted to answer questions about the rôle and effectiveness of Twentieth Century communication developments that are rapidly being made available in classroom learning situations.

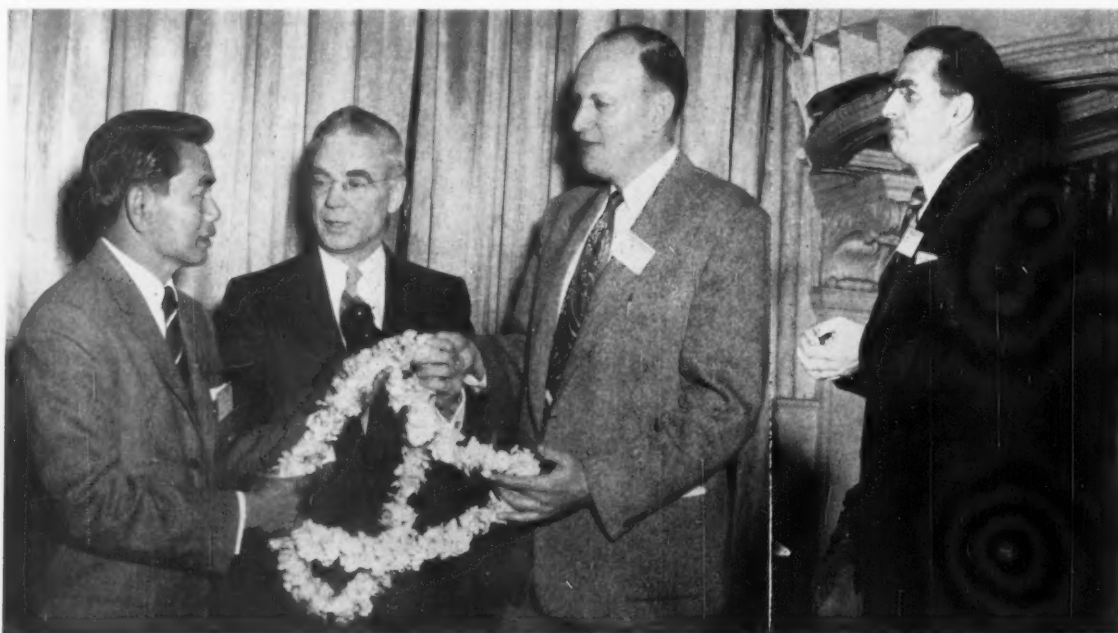
FILMS AID READING

Reports of research, and descriptions of classroom learning situations in which films and other audio-visual technics have been successfully used to arouse greater interest in and comprehension of reading, pointed to ways of leading larger numbers of children

toward better reading accomplishment. One study cited was that reported by Paul Witty of Northwestern University and James Fitzwater of the Chicago schools, in which groups of representative Chicago second graders were observed. The findings showed conclusively that when films were used 90 per cent of the pupils were involved at a higher level of learning. Another study made by Lewis Romano, supervisor of instruction, Shorewood, Wis., established that, when films were used to enrich science instruction, gains of from 50 to 200 per cent were

Left: Fortunato Teho, visual aids specialist at the University of Hawaii, presents leis to L. C. Larson of Indiana University, D.A.V.I. president, and Walter Wittich of the Uni-

versity of Wisconsin, past president of the organization. Right: James Bushong, superintendent of schools at Grosse Pointe, Mich., spoke at the convention's kickoff session.





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You're probably all too familiar with the chaos that can result from projector troubles during a classroom or assembly showing.

Audio-visual experts say improper oiling accounts for most projector breakdowns—most time out for maintenance. That's why every Kodascope Pageant 16mm Sound Projector is *permanently lubricated* at the factory.

Bypassing the commonest cause of failure helps you keep control of students—preserves the penetration that movies add to the learning process.

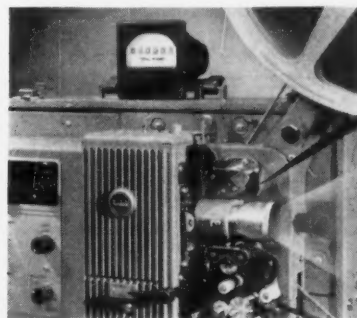
AND THE PAGEANT ALSO GIVES YOU:

1 Smooth setups—Reel arms *fold* easily into place; film path is printed on projector; drive belts are *attached*.

2 Sparkling pictures—Kodak's unique Super-40 Shutter automatically puts 40% more light on your screen when showing sound movies.

3 Natural sound—Tone and volume controls team with baffled speaker and true-rated amplifier for clear, comfortable, natural sound.

4 Choice of three models—One to match your movie needs and budget exactly.



And always running! Stock machines in independent tests have run—without being stopped, oiled, adjusted, or repaired—for more than 1000 hours. This is the equivalent of 2½ years of normal use. That's how permanent lubrication in the Pageant really pays off.

EASTMAN KODAK COMPANY, Dept. 8-V, Rochester 4, N. Y.

Please send me complete information on the new Kodascope PAGEANT 16mm Sound Projectors, and tell me who can give me a demonstration. I understand I am under no obligation.

NAME _____ TITLE _____
 ORGANIZATION _____
 STREET _____
 CITY _____ STATE _____
 (Zone)

5-62

Before you buy, evaluate the Pageant's merits with the help of this free booklet. Then let your Kodak A-V Dealer demonstrate. No obligation. Decide for yourself which Pageant best meets your needs.



Kodak
 TRADE MARK



YOU ARE



THERE

USE your Bogen sound system for 2-way intercommunication with any classroom, for distributing recorded programs, radio broadcasts, activities originating from any classroom, emergency announcements, and for the many original applications you will think of yourself.

REGARDLESS of how much more you might spend, you cannot buy a more practical or more dependable sound system than a Bogen. Functionally designed according to the recommendations of the U.S. Office of Education, and built by the country's largest manufacturer of sound systems: David Bogen Co., Inc.

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Bogen
sound system

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Please send me your catalog of Bogen
Centralized School Sound Systems.

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position _____
school _____
address _____
city _____ state _____



These men were participants in a professional program seminar, "Budgeting for Public School Programs," at the D.A.V.I. convention on March 14.

achieved in classroom work at the intermediate grade level.

Of outstanding interest as a feature of the convention were the advanced models of audio-visual classroom equipment, including 16mm sound motion picture projectors which will allow the teacher to create her own sound-track version of the teaching film. Other devices included improved models of the opaque projector and a simplified version of the widely known mechanical tachistoscopic reading rate improvement devices developed a decade ago by such reading authorities as Emmett Betts, Donald D. Durrell, and others.

Of major concern to teacher, administrator and exhibitor has been the emerging usefulness of audio-visual technics as means and methods of providing needed but unfortunately hard to provide readiness activities on the basis of which greater reading skill and comprehension, facility in oral communication, and skill in language arts can be achieved by the majority of pupils.

A LOT MORE WORK

"The teacher who uses movies in the classroom is doing the job the 'hard' way," Virgil Rogers, dean, school of education, Syracuse University, advised, "whereas the teacher who consistently uses the book is likely to be taking the easier course. It's a great deal easier to instruct the class to open

up the book and tell the whole class to start working on page 85 and to 'keep busy' than it is to plan a program which involves the careful selection and wise classroom use of appropriate audio-visual materials."

"There is an idea among some people that a teacher who uses movies in the classroom just starts the thing running and sits back and relaxes," L. C. Larson of Indiana University reported. "But there's really a whale of a lot more work for the teacher who correlates materials and then follows up book instruction by offering extras."

Lyle Ashby, N.E.A. assistant executive secretary, said, "It is preposterous to assume that merely placing audio-visual materials in the classroom can possibly take the place of a teacher. You can't make education an automation or assembly-line process. Take television, for example. It can be used very well to enrich the instruction and should be used in this way.

"But when it comes to proposals that we could get along with fewer trained teachers by having a master teacher talk to hundreds or even thousands of children from a television screen, the idea is preposterous.

"Children can't just sit and look at a television set every day and learn. Education isn't something that is fed into a child. It is a give-and-take process where some of it has to come out of the child.

(Continued on Page 100)

QUIET

in the classroom

... can be achieved economically with Forestone Fissured Acoustical Tile. For Forestone in 9/16" thickness costs no more than the popular 3/8" and 3/4" thicknesses of perforated fiber tile. Specify Forestone, the preferred sound-conditioning treatment for classrooms, auditoriums and other areas. Flame-resistant, washable, paintable.

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Mr. Sherwood Holt, Ithaca, Architect
Mr. Matthew Carroll, General Contractor
Rochester Davis-Fetch, Ithaca, Acoustical Contractor



Available only through these Simpson Certified Acoustical Contractors

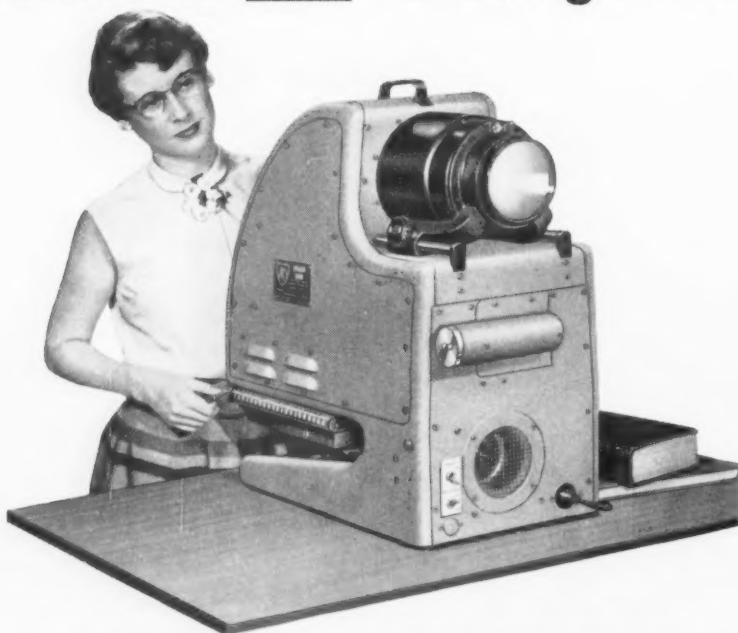
ALABAMA: BIRMINGHAM — Badham Insulation Company, Inc.; MOBILE — Stokes Incorporated. **ARIZONA:** PHOENIX — Fiberglas Engineering & Supply; TUCSON — Hall Insulation & Tile Co. **CALIFORNIA:** FRESNO — Cramer Acoustics; LOS ANGELES — Coast Insulating Products; SACRAMENTO — H. W. Rivett Company; SAN DIEGO — Coast Insulating Products; SAN FRANCISCO — Cramer Acoustics. **COLORADO:** DENVER — Construction Specialties Company. **CONNECTICUT:** BRIDGEPORT — Wilson Construction Company; HARTFORD — Wilson Construction Company. **FLORIDA:** MIAMI — Anning-Johnson Company. **GEORGIA:** ATLANTA — Anning-Johnson Company. **IDAHO:** BOISE — Fiberglas Engineering & Supply; Idaho Acoustical & Building Specialties Co. **ILLINOIS:** CHAMPAIGN — George S. Grimmer & Company; CHICAGO — General Acoustics Company; DECATUR — George S. Grimmer & Company; SPRINGFIELD — George S. Grimmer & Company. **INDIANA:** FORT WAYNE — The Baldus Company, Inc.; INDIANAPOLIS — E. F. Marburger & Son, Inc. **KENTUCKY:** LOUISVILLE — Atlas Plaster & Supply Company. **MARYLAND:** BALTIMORE — Lloyd E. Mitchell, Inc. **MASSACHUSETTS:** BRIGHTON — Acoustical Contractors, Inc. **MICHIGAN:** DETROIT, FLINT and GRAND RAPIDS — Detroit Fiberglas Insulation Division. **MIN-**

NEBOTA: DULUTH — Flament-Hampshire Company; MINNEAPOLIS — Dale Tile Company. **MISSISSIPPI:** JACKSON — Stokes Incorporated. **MISSOURI:** KANSAS CITY — The Stokes Company; ST. LOUIS — Hamilton Company, Inc. **MONTANA:** BILLINGS — Kerr & Company. **NEBRASKA:** OMAHA — Kelley Asbestos Products Co. **NEW JERSEY:** FAIRVIEW — Kane Acoustical Company, Inc.; KENILWORTH — Connor & Company, Inc. **NEW MEXICO:** ALBUQUERQUE — Fiberglas Engineering & Supply. **NEW YORK:** ALBANY — Davis Acoustical Corp.; BUFFALO — Davis-Fetch & Company, Inc.; ITHACA — Rochester Davis-Fetch Corp.; JAMESTOWN — Davis-Fetch & Company, Inc.; LYNBROOK, LONG ISLAND — Robert J. Harder, Inc.; NEW YORK — James A. Phillips, Inc.; ROCHESTER — Rochester Davis-Fetch Corp.; STONY POINT — The Cronin Acoustical Company. **NORTH CAROLINA:** CHARLOTTE — Bost Building Equipment Company; GREENSBORO — The Bonitz Insulation Co. **OHIO:** CINCINNATI — Cincinnati Floor Company; CLEVELAND — Acoustical Contracting & Supply Corp.; COLUMBUS — Rietmiller Acoustic Company. **OKLAHOMA:** OKLAHOMA CITY — Denman Floors Company; Harold C. Parker & Company, Inc.; TULSA — Midwest Marble & Tile Company. **OREGON:** EUGENE — Commercial Tile Company; PORTLAND —

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SIMPSON LOGGING COMPANY · SHELTON, WASHINGTON

Dramatic NEW Teaching Aid...

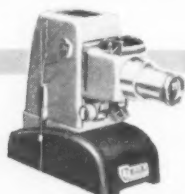


AMERICAN OPTICAL OPAQUE PROJECTOR

Here's a simple way to project books, papers, coins, lab samples directly on a screen. An AO Opaque Projector, with the large 10" x 10" aperture, projects practically anything that's opaque, and not more than 3½" thick. Blows it up on a screen, large enough for whole audiences to see. People understand quicker, remember longer when they can see what you are talking about.

In Schools, Churches. Project test papers for comparison, news clippings, coins, gears. Show Bible Stories, pictures from books and other teaching materials.

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AO Educator 500

Your brightest buy for 2" x 2" slides and film strips. 500 watt — blower cooled — 3½", 5" or 7" projection lens.

Costs Little to Run. With an AO Opaque Projector there is no film to buy — no rentals to pay — no slides to make — the whole world provides your material.

Simple to Operate. Just flip a switch and insert copy. The AO Opaque focuses easily — keeps projected objects cool. Readily portable, 1000 watt lamp gives unmatched screen brilliance.

American Optical

U.S. Pat. Reg. by American Optical Co.

CHELSEA, MASSACHUSETTS

(Continued From Page 98)

"For one thing, a teacher explaining to a class can see that a child understands when his face lights up. A television set can't see when that happens."

NEW METHODS COST MONEY

"Many boards of education," said Charles S. Schuller, Michigan State University, "must learn that in order to get full advantage from the orderly use of audio-visual materials in the classroom, a few more dollars must be spent." He estimated that the present minimum cost of a good audio-visual program, not including salaries or equipment, just materials, would run from \$3.50 to \$5 per pupil.

Dean Rogers substantiated this point of view when he reported that the typical classroom teacher wishes to, but cannot, make use of needed audio-visual experience materials because they are not always at hand, or usually are in too short supply.

At the close of the meeting, the gavel was turned over to the new president, L. C. Larson of Indiana University, by the retiring president, Walter Wittich, University of Wisconsin.

The high point issue of the convention was the scope and naming of the new professional magazine of the Department of Audio-Visual Instruction. The magazine, tentatively entitled "Instructional Materials," was analyzed at the time of the presentation of the first issue at the Detroit conference. Feeling about the professional significance of the new magazine's scope and content was ably expressed by previously instructed delegates representing 16 state audio-visual organizations. Alternate titles will be presented through a referendum mailed ballot to all members of the D.A.V.I. in May. This test will reveal whether members of the association wish to retain the tentative title, "Instructional Materials," or the proposed alternate title, "Audio-Visual Instruction."

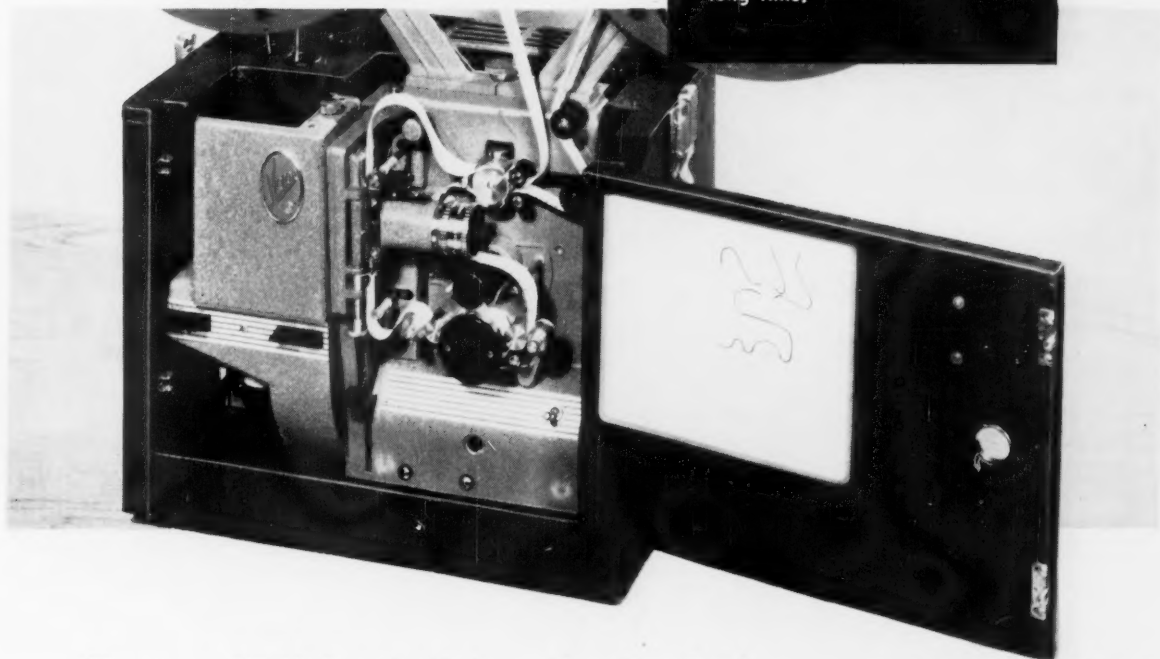
Acting as hosts to the Detroit meeting and responsible for arrangements, which included a complete audio-visual service arrangement for all meetings, field trips into the greater manufacturing assembly lines of the automobile city, and opportunities to meet the administrative officers and teachers of the Detroit public schools, were Co-chairmen Lewis Saks, East Detroit public schools, and Robert LeAnderson, Detroit public schools.

How the

NEW VICTOR 16mm SOUND PROJECTOR PAYS ITS WAY through school . . .

SAVES BUDGETS

Victor Safety Film Trips protect film from damage so you can buy new film instead of replacements. And, the Victor's engineered for rugged use, built to last a long, long time.



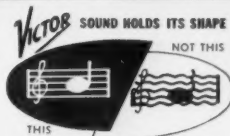
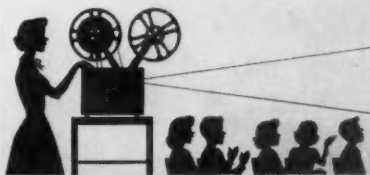
You get your full dollar's worth with the new Victor 16mm Sound Projector. It's so easy to operate, teachers use it every chance — and cut your cost per showing way down. 3-spot threading is quick — operation is simplest ever with fingertip control panel. (1) Start motor, (2) turn on lamp, (3) adjust sound volume.

The Victor's loaded with features that insure longer film and projector life. Exclusive Safety Film Trips detect previously damaged film . . . stop projector instantly so there's no further damage . . . also prevent possible damage from misthreading. Victor's Lubrimatic Oil System for controlled automatic lubrication gives you trouble-free operation that reduces servicing . . . Air Conditioned Lamp House is 20% cooler for longer lamp life . . . Pawls are sapphire-tipped for indefinite durability . . . Air Conditioned Film Gate is 17% cooler, makes film last longer.

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TEACHER CONFIDENCE

—inspired because teachers can operate the Victor easy as 1-2-3 . . . can't thread it wrong . . . can't damage film!



VICTOR

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Dept. A-56, Davenport, Iowa, U. S. A.
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Quality Motion Picture Equipment Since 1910



**38%
MORE LIGHT
ON THE SCREEN**
(with MARK II shutter)
— gives sharper, clearer pictures

THE SCHOOL LUNCH

Conducted by
Mary deGarmo Bryan

Lunchroom Is Laboratory

*for healthful living if your school
chooses to make it one*

E. CURTISS GAYLORD

Associate Professor of Health Education
State University of New York Teachers College, Brockport

THERE is probably no better laboratory for bringing parents and school together to work toward building healthy boys and girls than the school lunchroom.

In many schools the educational considerations have received scant attention, and the lunch has not been related in a vital way to the educational program of the school. There are, however, notable exceptions. In some schools the lunchroom is a lab-

Adapted from address to New York State School Food Service Assn., Buffalo, N.Y.

oratory in which pupils learn the best ways of solving some of their basic problems in healthful living and citizenship.

Suggested approaches to achieving the educational outcomes. The realization that proper diet is tremendously important will develop gradually, not as a result of telling boys and girls that this is so but by giving them opportunities for observation, study of scientific reports, feeding demonstrations and taste tests and similar experiences in nutrition.



Recently, it was my privilege to serve on the school lunch committee of the American School Health Association which made a national survey in 646 schools distributed throughout the United States. Although the



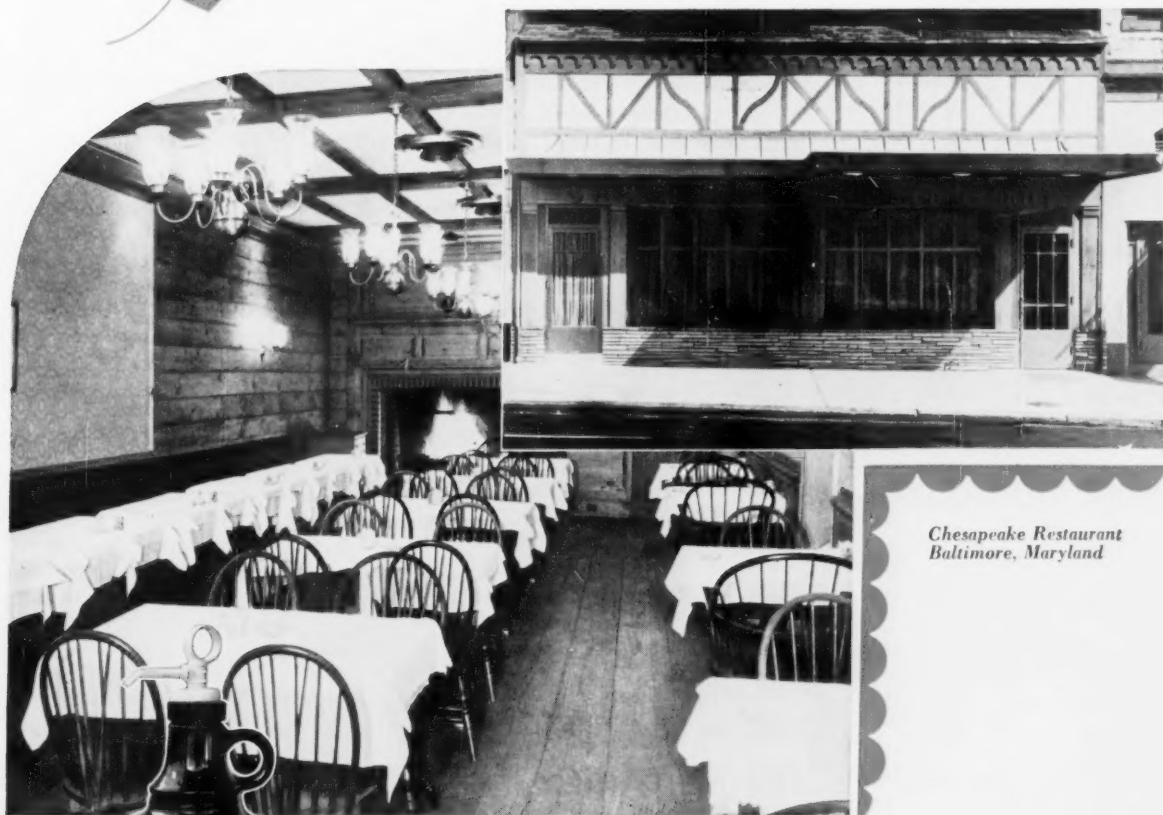
Children at Standard Heights School, Baton Rouge, La., learn how and what to eat in lunchroom. Vegetable fig-

ures march in the mural of the health parade. Whole wheat bread is placed on two large plates on each table.

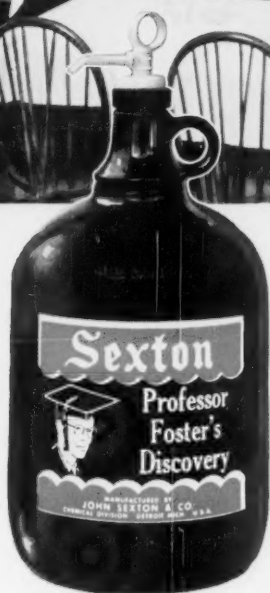
ack of all work

Sanitation in a place of public patronage must be unobtrusive, effective and economical. Meeting all these requirements—and versatile, too—is Professor Foster's Discovery. This amazing new liquid detergent does many jobs and does them well,—washes delicate china and glassware, gently cleanses finest fabrics.

Sexton Improved Invinso adds to a thorough cleansing in your dishwashing machine, a bleaching agent for removing stains from your glassware and chinaware.



*Chesapeake Restaurant
Baltimore, Maryland*



JOHN SEXTON & CO., CHICAGO, 1956

Sexton

Quality Foods

THOUSANDS INSTALLED IN '55

Sani-Dri Saves All Towel Costs!

Cuts Maintenance . . .
Automatically
Eliminates Litter!

No. 7-A Sani-Dri
in school



Not 30% . . . not 60%
... you get 100% savings
on towel costs with
Sani-Dri . . . plus 85% sav-
ings on maintenance over-
head. No more empty towel
cabinets . . . no messy, un-
sanitary washrooms . . . no
fire hazard . . . no clogged
plumbing. Sani-Dri gives
you 24 hour automatic dry-
ing service that is clean
and sanitary, plus savings
never possible with towels.
Underwriter's Seal and
full 2 year guarantee!



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HAIR DRYING is now considered a
must in girls' shower rooms in today's
schools to prevent colds and sickness.
Sani-Dri also used to dry athletic equip-
ment—ideal for pools, etc.

WRITE TODAY!

Get the actual savings facts
about the original and only
complete line of electric
hand and hair dryers.



THE CHICAGO HARDWARE FOUNDRY CO.
3356 Commonwealth Avenue
North Chicago, Illinois



The handwashing trough, used by students before entering the lunchroom,
can be made by the school at nominal cost. (Photos, Baton Rouge schools)

survey was aimed primarily at sani-
tary practices, a number of questions
pertain to educational aspects of the
school lunch program. The first five
of the following suggestions for mak-
ing better use of school lunch educa-
tional opportunities tie in with the
national survey:

1. The school lunch can serve as a
unit of study. In the national school
lunch survey, 50 per cent or 308
schools reported they had discussed
the nutritional purpose of the school
lunch in their grades and in appro-
priate classes.

2. School children can participate
by working in the school lunch pro-
gram. Five per cent of the schools
(43) indicated children assist in food
preparation; 50 per cent (302 schools)
said children help in food service, and
70 per cent said they help in clean-
ing up.

3. Continuous active participation
by parent-teacher groups was reported
in a variety of ways: help in serving
lunches, financial aid to lunch pro-
grams, aid in obtaining improvements,
aid in school lunch inspection, and
use of school lunchroom for other com-
munity purposes.

4. Health should be taught as a
separate subject in the curriculum.
This gives increased opportunity
to realize more fully the educational
contributions of the school lunch. Sixty
per cent of the schools surveyed (386)
reported health was taught as a sepa-
rate subject.

5. Sufficient time should be allotted
for lunch. In the national survey, 20

per cent of schools allotted 20 to 29
minutes for the school lunch, 40 per
cent, or 265 schools, reported 30 to 39
minutes, 25 per cent reported 40 to
49 minutes, and 15 per cent reported
more than 50 minutes.

Other educational opportunities.
However, there are also other ways
of achieving the educational outcomes
of the school lunch:

6. School lunch personnel may help
grades and classes plan for picnics,
party refreshments, and "tasting" par-
ties.

7. Grades and classes can be in-
vited to plan a day's menu, or possibly
a week's menus. With the increase in
school camping, grades may also pre-
pare menus for camping trips.

8. Grades and classes can be en-
couraged to study wastage of food
such as bread and milk. An interesting
study can be developed on why chil-
dren did not finish school lunches.

9. Grades and classes can study the
best foods to be served for lunch by
nutritive comparisons of breads, fruits,
desserts and so forth. For example,
many schools have compared Cornell
bread with whole wheat, rye and en-
riched breads.

10. A "tasting committee" can help
the lunch manager introduce new
foods. A lunchroom committee can
introduce a new food with a sign,
"Try Some—It's Free." Or a small
helping may be added to each lunch.

11. When the cafeteria is an integral
part of the school, many questions of
policy and procedure will not be de-
cided by the manager or the principal



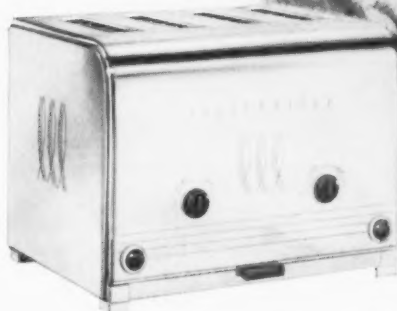
Nourishing Toastmaster toast Cuts food costs and Provides quick energy!

Toastmaster's Golden Slice adds bulk that stretches costlier foods, without reducing nutritional value.

You're ahead in so many ways when you dress up a dish (or sandwich) with tempting Toastmaster Toast! It enables you to cut portions of more costly foods. It adds menu variety. It provides an appetizing way to make use of left-overs. And, most important, it's so nourishing and easy to digest. Toasting changes the starch in bread to dextrin, a food which is easily converted into quick energy. And, the most perfect toast by far is delicious *Toastmaster Toast*!

Thanks to the most accurate timer of all, every slice is evenly browned every time, regardless of voltage fluctuations. The new Powermatic model is also the most economical toaster for a school lunch room. It has *no levers to press*. No lost motion—no slamming and banging to cause needless wear. Reliable electric motors lower and raise the bread *automatically*. And, this toaster fits wherever it's needed.

Ask your restaurant equipment dealer to show you the most economical "Toastmaster"* Powermatic Toaster for your school lunch room. Mail the coupon for full details!



4-Slice Model
\$134.50†



8-Slice
\$278.00



12-Slice
\$412.50



16-Slice
\$556.00

The New **TOASTMASTER** *POWERMATIC* toaster

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†Prices slightly higher in Pacific Coast states.

I'M INTERESTED!

TOASTMASTER PRODUCTS DIVISION

McGraw Electric Company, Elgin, Illinois

Please send more details about the new Toastmaster Powermatic Toaster.

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School name.....

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City.....Zone.....State.....

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NEW Kewanee Dishwasher with 3 DEEP TUBS!



Here's the dishwasher that restaurant owners and institution managers asked for... and Kewanee delivered! There are three full-sized tubs for complete immersion of dish baskets... plus a shallow gross soil compartment with special waste and drain.

All tubs are gleaming stainless steel with new rounded, easy-to-clean corners... new overflow and stopper... new recessed thermometer and hidden thermostat control.

\$684. Other Kewanee models start at \$429. (All prices F.O.B. Kewanee, Ill. and subject to change without notice.)

A Kewanee Dishwasher makes many times its purchase price in saved wages, less dish breakage and economy of hot water and detergent. Plates, cups, glasses, silverware, pots and pans are washed, sanitized and dried at the rate of over 2000 per hour. Wash water at 120° to 160° begins sanitation...rinse water at 180° positively kills pathogenic bacteria. Rapid air-drying prevents recontamination from towels.

Write for complete facts about
Kewanee Dishwashers now!

Kewanee
DISHWASHER

802 Burlington Ave. Kewanee, Ill.

See the new 3-tub Kewanee, plus other models, at The National Restaurant Show: A.G.A. Combined Exhibit.

acting alone. Some examples are: Shall student labor be used? Shall candy, carbonated drinks, and packaged foods such as potato chips and crackers be sold? Shall some highly nutritious foods be sold at cost and the difference made up on the price of desserts and other well liked but less important items?

12. Pupils frequently can help solve problems involved in maintaining order and a pleasant atmosphere. In some schools this has resulted in pupils electing hosts and hostesses at each table, or classes listing points of etiquette applicable to eating in the

cafeteria. Student councils have frequently aided in solving problems.

13. Pupils may arrange for celebrating in the cafeteria a holiday or a special occasion on the school calendar.

14. And, finally, there are numerous opportunities for correlating classroom activities with the cafeteria and school lunch program. With the cooperation of school lunch personnel and teachers, many desirable pupil experiences can be worked out in classes such as English, science, arithmetic, business education, art, social studies and music, as well as in home economics and health instruction classes.

Some schools in New Hampshire find

Meal Tickets Are Worth Trying

MEAL tickets are being used in some public schools in New Hampshire in connection with the school lunch program. This is a convenience for parents, who thus send money only once a week, and for teachers, who thus avoid daily collections of money.

Tickets are printed or mimeographed and are issued for five meals rather than for a school week. They are numbered, making it easier to assign to an older student the responsibility of selling tickets and accounting for the money received for them.

The following procedure is suggested in a bulletin issued by the school lunch division of the New Hampshire State Department of Education:

1. Sell tickets at a stated time and place each day.
2. Give money and unsold tickets to person maintaining records. Obtain a receipt for them.
3. Have pupils write their names on their tickets. First graders can letter their first names.
4. Collect tickets as children enter the dining room. (A ticket of a different color may be used for adults. Free or "reduced" tickets may be identified with a mark known only to the school lunch manager and the teacher.)
5. At the close of the noon hour, punch out one meal on each ticket. Count the tickets and record the num-

ber of meals served. Sort tickets by grades, fasten each group with a rubber band, and return them to the classrooms. (This work can be done by the manager or someone assigned by her.)

6. Next day, prior to the lunch period, pass out tickets in the classroom to their owners. (Keeping tickets in school eliminates loss or destruction in the washing machine if they were left in pockets.)

7. Destroy ticket when the last meal is punched.

Sample Ticket

No. _____
NAME OF SCHOOL
Lunch Program
Name _____
Grade _____
Meals: 1 2 3 4 5

Sample Receipt

Date _____
Tickets sold: No. _____ to No. _____,
incl. _____ tickets @ \$ _____ = \$ _____
(Total No.) _____
Signature of Seller _____
Rec'd. \$ _____
Manager



This modern school uses the modern fuel . . . *GAS*

At Valley High School, in Lonaconing, Maryland, modern Gas equipment helps serve tasty, appetizing food to an average of 500 students each school day. Mrs. Grace Bolyard, Cafeteria Manager says, "We like our modern Gas equipment. It provides exact control to give us the results we want. The speed and cleanliness of Gas are important to us, too."

The modern Gas equipment used to prepare the

children's meals at Valley High School includes 3 Garland ranges, a Blodgett oven, a Groen kettle, a Steam Chef steamer and a Hobart dishwasher.

For information on how you can benefit by installing modern Gas equipment, call your Gas Company commercial specialist. He'll be glad to discuss with you the economies and outstanding results you get with Gas and modern Gas equipment. *American Gas Association.*

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Bernard R. Oosting

Los Angeles experiments with surfacing

To Make Playgrounds Safer

LAWRENCE E. HOUSTON

Director, Physical Education, Safety and Youth Services Branch
Los Angeles City Schools

as told to **WILLIAM C. RIVERA**

Assistant Public Information Supervisor, Los Angeles City Schools

IT WAS one of those typical Southern California days, of which our local chamber of commerce is so proud, that afternoon when I received a phone call from one of our west side elementary schools.

I did not know it at the time, but that phone call began a chain reaction that has cost the Los Angeles city schools thousands of dollars, has resulted in countless hours of concen-

trated work for many members of our system's business and educational staff and me, and has led to the adoption of a program of playground safety surfacing by our board of education, the cost of which will be nearly \$2 million before its completion.

"A 6 year old child fell off a swing onto the blacktop at our child care center and has been taken to the hospital," a staff member informed me.

The child had suffered a fatal concussion.

The incident that educators are constantly working to avert yet dread will happen at any moment—the serious injury to a child on a school playground—had happened.

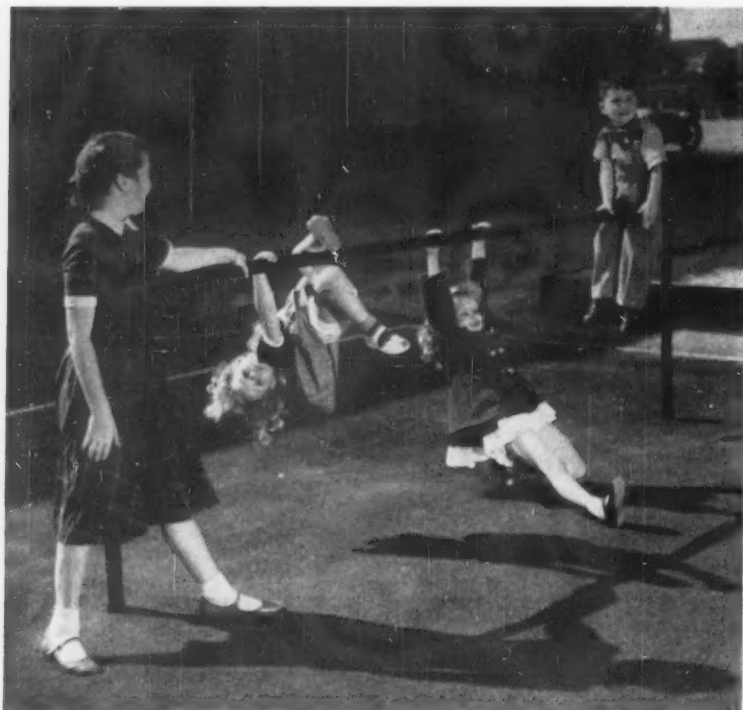
Next day the Los Angeles papers carried large headlines, "CHILD DIES IN SCHOOL BLACKTOP FALL." This accident was the second fatality on a Los Angeles school playground within a period of four years; both had happened on the asphaltic concrete—or so-called blacktop—surfacing.

Public reaction to these incidents brought to a sharp focus in Los Angeles a problem which has been the concern for many years of boards of education throughout the country. Many attempts have been made to find the proper type of surfacing on playgrounds and under playground apparatus. Like other educators and recreation departments from coast to coast, we in the Los Angeles system had been hard at work trying to solve this problem.

First of our accomplishments toward this end was inaugurated in 1931 because of numerous requests from the community. All sand under apparatus was removed from elementary school playgrounds with the exception of sand in primary sandboxes. Many factors were involved in the decision, but the two chief reasons were the "large number of accidents" and "unhealthful conditions."

Five years later, in 1936, the ever present problem of dust on play-

For four years Los Angeles has been experimenting with various types of surfacing to be placed under apparatus; two types seem to be satisfactory.

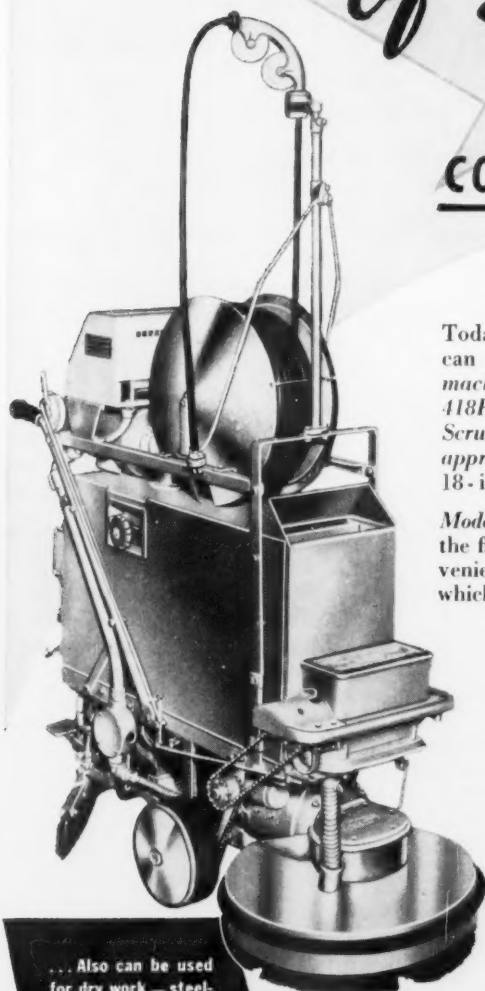


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grounds was brought to the attention of the board of education by members of the grand jury. It was their feeling that this dust was a menace to the health of the children and teachers and adversely affected the cleanliness of schools.

As a result staff members responsible for physical education and playground activity recommended a long-term program of blacktopping of school playgrounds.

Although one of the major reasons for this move was to better community relations, blacktopping was well ac-

cepted by principals, teachers, maintenance personnel, pupils and parents.

To date the program has resulted in the blacktopping of more than 90 per cent of our 377 elementary school playgrounds.

Any apprehensions that might have existed as to the safety factor of asphaltic material turned out to be unfounded. From 1940-41, when the program was begun, to 1949, 20 million square feet of playground area were covered with the blacktop hard surfacing. Yet the accident rate, as determined by the National Safety

Council formula, was actually lowered to 1.3 apparatus accidents per 100,000 student days from the 1.4 high point in 1931-32.

The program of the Los Angeles city schools involves some 300 million hours of student activity, with some 90 million of these hours being expended in physical education activity on the playgrounds.

Our records show that an average Los Angeles elementary school has one recordable accident each seven and one-half school days. A recordable accident, regardless of the nature of the injury, by National Safety Council definition, is one that causes a pupil to lose one-half day or more of school or to visit a doctor other than a school physician.

Further broken down, this figure means that one of our elementary school pupils would be expected to have a recordable accident each 35 years of school attendance and a fracture or concussion accident each 412 years.

These statistics, viewed in the light of stringent supervision and instruction in proper use of apparatus, make it difficult to see how much improvement could be accomplished.

However, even one accident is too many, and, because of violation of safety practices, loss of grip, and immature judgment, pupils were involved in accidents on school playground apparatus.

It was the problem of these accidents, uncommon and scattered as they were, that made us decide to begin a new program of experimentation. Our goal was to find a material for use under apparatus that would provide a greater degree of safety and yet would have great durability and a low maintenance cost.

EXPERIMENTS STARTED

With this in mind, the Los Angeles city school staff went to work during the 1947-48 school year. In its initial stages the experiments included such obvious materials as cork and various forms and types of rubber. The scope of this first program consisted of 43 installations of 22 different materials in various schools. A record of experience and accident statistics was carefully kept on a day-to-day basis.

It took only a short time, however, to see that the majority of the materials used in these original installations simply would not be satisfactory because of lack of durability and ability



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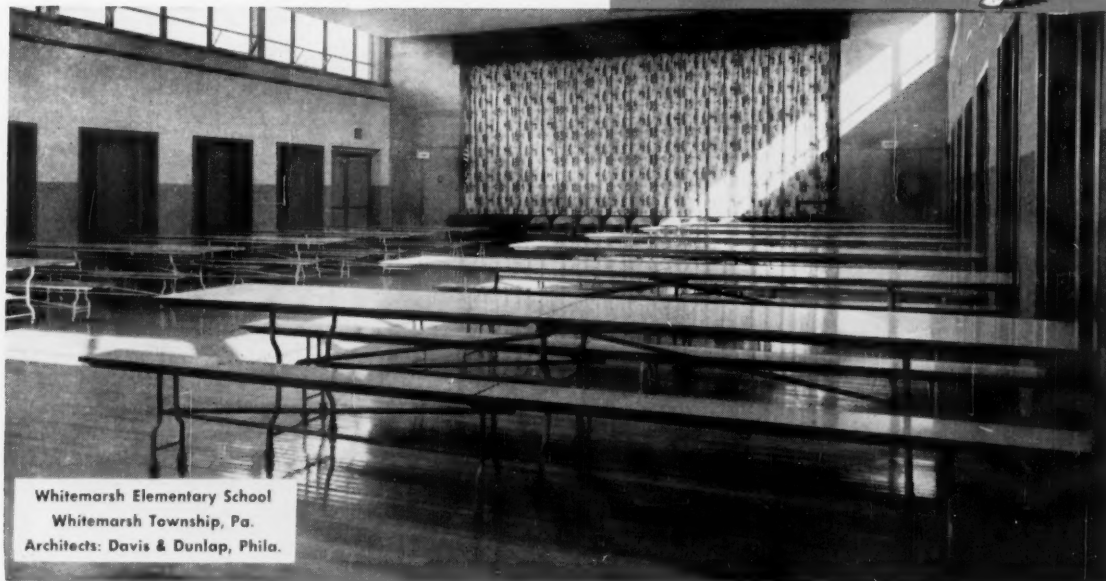
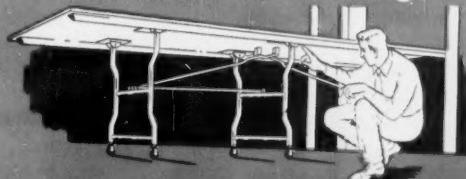


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to decelerate the force of a falling body.

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Rubber pads—of many kinds and shapes—soon lost their decelerative qualities. Furthermore, the rays of the famed Southern California sun caused these pads to warp, buckle and harden. Interlocking rubber blocks, because of the constant pressure of children's feet, eventually shifted and developed a surface of varying heights which presented even greater safety hazards.

Layers of cork also proved inadequate, for the surface just did not stand the constant scuffling of children's feet. Pelletized rubber mixtures, which had been compounded with the asphaltic base, soon became loose and gave way, creating furrows in the surface.

Despite our initial findings, our experimentation continued.

Then came that phone call—and with it the chain reaction of news-

paper stories, editorials, aroused community groups, and demands that our millions of square feet of asphaltic pavement immediately be scraped off school playgrounds.

Our board of education was quick to meet the challenge. Realizing the importance of the problem, the board, in May 1951, acted in a manner that could result in nothing but favorable public reaction. It voted to form a citizens advisory committee and by this gesture enabled the entire community to focus its forces on the problem and aid the Los Angeles schools in arriving at a solution.

COMMITTEE INVESTIGATES

The committee was composed of parents, civic and religious leaders, professional experts, and school personnel. These people were instructed to investigate the problem and make recommendations for action to the city board of education.

The group had almost a score of meetings during the summer months. In late August it presented three recommendations to the board of education. The three, in addition to a blanket endorsement of blacktopping

as the best surfacing for playgrounds, were:

1. That some temporary expedient be used as an immediate answer to the problem of a more resilient surface under apparatus.

2. That certain types of apparatus which were conducive to accidents be inactivated until further study could be made.

3. That experimentation be continued in order to determine the most suitable surface for use underneath apparatus.

The board of education immediately acted. Before school opened sandboxes were placed under low bars, horizontal ladders, traveling rings, and multiple climbing trees. Swings, slides and climbing poles were removed and stored. Money was allocated for continuance of the experimentation program.

It was during this same period that several large industries became interested in our project. They offered us various materials and combinations of materials to be used in the experiments.

Fourteen elementary school installations of these newer materials, which were specifically engineered for this purpose and thus were of a more complex nature, were made in the year following the advisory committee report.

Meanwhile, an interesting development was noted in the use of sandboxes under existing equipment. Despite the fact that less apparatus was in use the total number of accidents on the school playground did *not* decrease.

SAND CREATES HAZARD

Instead, our compilations showed that these accidents were now more heavily concentrated in areas where the apparatus was placed. Some of the accidents were caused by sand displaced from the boxes, while still others were being caused by the additional hazard presented by the wooden sides of the boxes. In addition, the work of already overloaded custodians was increased by the necessity of sweeping and returning sand to the boxes.

These reasons soon led us to conclude that *sand was far from the best answer* for protective surfacing underneath apparatus.

Finally in June of 1953, two new types of protective material which had been installed for more than a year

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gave indications of being a solution to the problem. These installations had been closely observed so that we could determine their suitability and durability.

One of these, which was composed of a 1/4 inch rubber pad with 3/4 inch air cells on the under surface, was quite promising. The pad came in interlocking blocks, the upper surface was resistant to wear, and the air cell principle provided some decelerative quality. Moreover, the thickness of the membrane forming the air cells could be varied, resulting in different degrees of deceleration.

The interlocking blocks could be installed directly on the playground surface, and the sections could be bound together with surrounding tapered blacktop ramp. Its price was quite reasonable. Incidentally, a pilot installation of this material which required vulcanization of the lap joints had been made previously, but it had proved too costly for general use.

Our experience with the five plots of interlocking blocks installed now covers four years. Our findings show that the upper surface gives excellent footing, is almost impervious to wear,

and has not appreciably deteriorated from the effects of sun and weather. The air cells provide a distinct cushioning effect although a heavy individual "strikes bottom," whereas a light individual cannot depress the upper surface to any appreciable extent.

However, we are concerned with the effect of the heat which is transmitted through the block pad to the asphaltic surface beneath. A recent inspection showed that the edges of the cells were cutting into the blacktop as the heat softened and drew the tars from the base. Some effectiveness of the air cells was dissipated underneath the pad by the absorption of the tars and the accumulation of dirt within the air cells.

GIVES MOST PROMISE

Still another product, consisting of three layers of material and especially engineered for providing protection underneath apparatus, has been installed at nine schools. The original plot has been in use for four and one-half years and gives the most promise of any product that we have tried.

Each of its component parts is especially designed for a specific purpose.

The underneath layer, which is of ground degenerated rubber, may be varied in thickness to supply different degrees of deceleration. The middle layer of resin treated fabric serves to hold the cushioning material in place, gives added strength, and distributes the force of the impact over a wider area. The outer coating provides a wearing surface as well as protection from the elements and is the expendable factor, as it may be renewed easily and at low cost.

A recent inspection of the original installation of this product revealed that it had not changed to any appreciable degree in more than four years of hard usage. Of all the materials tested, this product gives the most promise of affording the required deceleration, low maintenance cost, and long life.

In addition, this material may be installed directly upon asphalt or concrete. It binds directly to its base, becoming virtually air and water tight, and presents no inequalities of surfacing. The tough outer skin readily discourages investigation by curious children.

This type of safety surfacing is one of the most expensive of our experimental materials. Initial cost must, of course, be examined in relation to many other factors, and it is likely that its "circus net" type of deceleration, the apparent durability and low maintenance cost features, and its trouble free daily operation actually represent a lower unit cost.

INSTALLATION TO BEGIN

Our experimentation still continues. However, it has now arrived at the point where the board of education and members of the staff of the Los Angeles city schools feel that a program of installation throughout the system can get under way.

As a result, a total of \$1 million was sought—and approved—as one of the features of a \$133 million bond issue for school construction voted by school district citizens last year.

This sum will not provide for installation of safety surfacing at all 377 of our elementary schools, but it is a substantial step toward our goal.

Our only hope is that the countless hours spent, the many dollars expended, and the endless headaches suffered in arriving at these findings will serve but one purpose—providing optimum playground protection for our country's school children.

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Making Sense Out of the School Administrator's Job

Book Review by SAMUEL E. FLEMING

Superintendent of Schools, Seattle

ADMINISTRATION AS EDUCATIONAL LEADERSHIP. By John A. Bartky, professor of education, Stanford University. Stanford, Calif.: Stanford University Press. 1956. Pp. 266. \$4.75.

IN 250 well written, provocative pages of "Administration as Educational Leadership," Dr. Bartky tries to make sense out of the job of the hard pressed school administrator. The uncertainties of the job, the complexities and illogical aspects begin to fall into some order and understanding as the author makes his long and broad experience intelligent to the man who is struggling to make the parts of the puzzle, which confronts him as he tries to get things done, fit together.

Dr. Bartky does not offer a static picture but a moving picture. He takes the neophyte by the hand and directs the eager feet of the experienced administrator to where the line of battle ebbs and flows. He who is faint-hearted had better stay right where he is.

The dynamic leadership about which Dr. Bartky speaks is not easily attained. It comes through "blood, sweat and tears," and promises no ultimate, never-to-be-arrived-at goal of complacency. It comes not only with experience built around trial and error but through a study of the job utilizing all the sciences that in any way make the results of practice more predictable.

WELTER OF UNCERTAINTY

Dr. Bartky accompanies the way-faring administrator up precipitous hillsides of disaffection into green valleys of understanding, on to where the path loses itself in a welter of uncertainty. He helps his confused follower see his part in the rôle of leadership—whether the authoritarian at one

end of the arc, the laissez faire at the other, or, in the middle, the democratic way.

This is no road, no companion for the self-made educational leader who contends that he has just naturally learned his rôle as an educational leader. Proud of his maker, he needs no book learning to help sharpen up the tools of his leadership. Hasn't he lived a long time and had such a long experience that the mind of man knows not the beginning? He is sure his experience has been long and varied, perhaps long in that he has slipped over the same experience many times, each time with less to show for the slip.

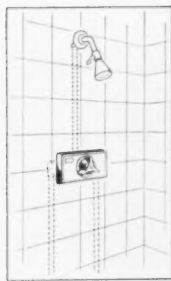
NO VACUUM

Educational leadership cannot work in a vacuum, in isolation. It is through the medium of others, whom the administrator organizes and directs, that the objectives of leadership and organization are achieved. He must recognize the drives that trigger human behavior in group relationships. He must not hesitate when decision is vital, must not utilize the democratic process to avoid the responsibility for a decision of his own.

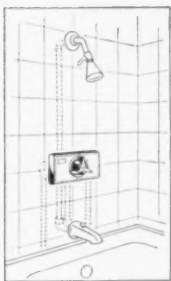
Educational leadership, we learn by observation, is built around sincerity in the processes of leadership, humility in wearing the badge of leadership, and an unwillingness to expose members of the command to hazards the leader himself is unwilling or unready to face.

Dr. Bartky has no easy prescription for those who aspire to educational leadership. Such leadership is not a cloak to put on and take off. It is of the essence of personality itself, offering rewards to him who is prepared to pay the price in study of his job and those sciences that buttress it: long hours in activities, social and

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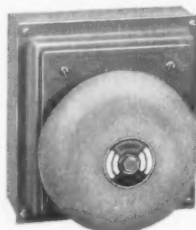
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otherwise, that condition proper exercise of leadership in a wide variety of sensitive relationships.

The educational leader must expect attack from many and diverse quarters on this thing called education which he is espousing and feels under commitment to defend. Not too encouraging are these quotations:

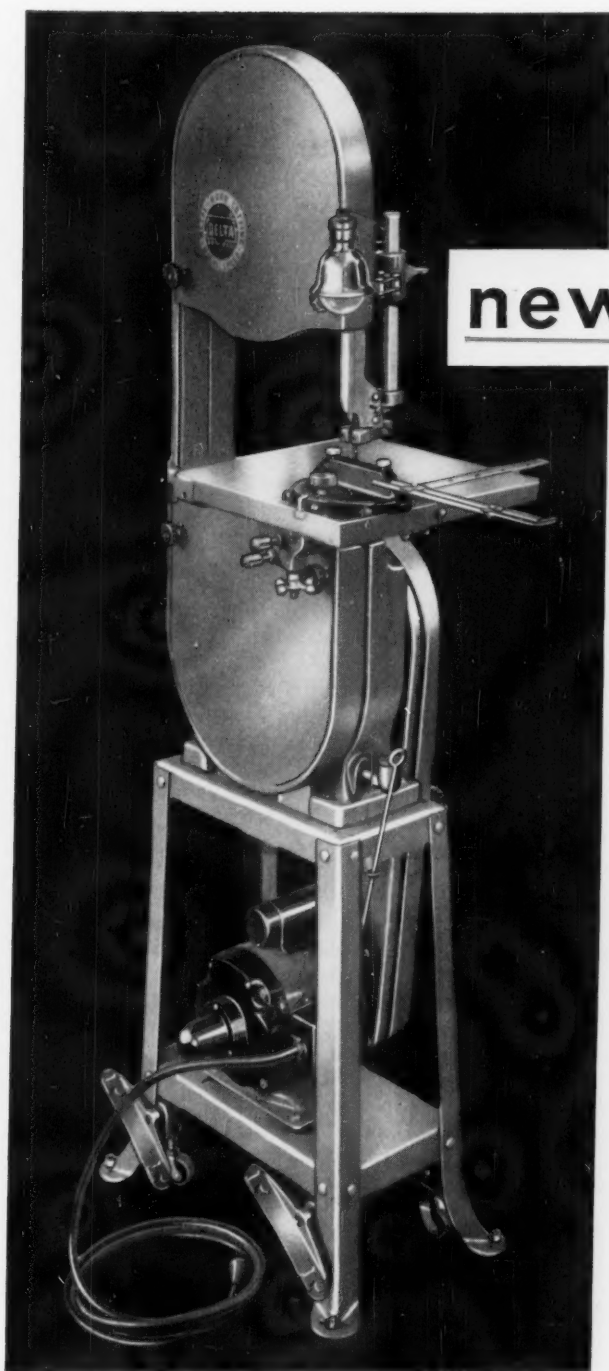
"Educators and education are under attack as they have been from time immemorial. The history of education is little more than an account of abused educators and banned philosophies of education. The educationist who has not been purified by public persecution is not an educator.

"The present-day attack upon education is a little different—more generally violent, perhaps, but less personal than earlier attacks. The modern society does not poison its Socrates or crucify its Christ; it poisons its pen points and crucifies reputations. Its fulminations are directed more against educational theories than against educators. This is small comfort, but it may, nonetheless, be taken as an encouraging sign. Perhaps after two or three hundred years, people are beginning to use a little more reason, even though their technics of criticism often remain primitive."

What is the rôle of the true educational leader as he comes to the defense of his school against those who speak out to destroy it? Must he defend all, even to the minutiae, which are included in the attack? Can he not depend on truth to be his shield against the arrows of unreasoning hate allegations?

HE MUST GET RESULTS

To sum up the matter: "The success of the educational administrator depends on his ability to get results. He may be unpopular, his methods may appear haphazard, his subordinates may balk at identifying themselves with the organization; but so long as he gets results in ways compatible with the organization's culture, he is a good leader. Modern leadership theory, with its emphasis on satisfying the needs of the organization's members, seems to be foolish; it is all very well for the members to be pampered, but only after the organization's purposes have been attended to. If pampering is the organization's purpose, the organization is a social get-together and its leader a sort of glorified caterer. There are such organizations, but there can be no such schools."



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By EDGAR FULLER

Shortage of scientists

► Voices calling attention to a national shortage of scientists and engineers are reaching a loud and slightly shrill crescendo. Speakers everywhere are dramatizing it. Newspapers, magazines, television and radio feature selected sensational tidbits. Misinformation, half-truths and factual appraisals are jumbled together and eventually will have to be untangled, but this is our national way of calling attention to something that worries us.

The basic cause is national insecurity. We cannot afford to fall behind in science and technology. The basic need is better education, a comparatively unglamorous subject but one that has had much attention lately. Preparation for peace may be quite as important as preparation for war, but we must have both. We must have both within the framework of our educational system, because we could not successfully imitate a totalitarian system even if we desired to do so. Yet there is more than a little danger that we may seize upon quick and plausible solutions which in some ways imitate totalitarian technical training systems.

In any event, educators have a special responsibility to clarify the facts about how the nation stands in scientific education, to use whatever practicable short-term expedients are available, and to initiate long-term educational programs that will lead to national security as well as to public reassurance.

Clarifying facts

► Washington educators in close touch with the facts about scientific education in the elementary and secondary schools throughout the country are amazed by sensational statements being made by highly placed persons. They both exaggerate the supposed virtues of foreign education and de-

recate our own. After such stories have been repeated a few times they grow so wondrous that efforts to get at the facts are likely to be shouted down.

Executive Secretary Robert H. Carleton of the National Science Teachers Association, for example, has questioned the validity of recent assertions by such people as Chairman Lewis L. Strauss of the Atomic Energy Commission, Director Alan T. Waterman of the National Science Foundation, Columnist Dorothy Thompson, Benjamin Fine of the *New York Times*, Ansel E. Talbert of the *New York Herald-Tribune*, and former Sen. William Benton. The last, for instance, repeats the untrue statement that, "... last year, for the 28,000 high schools of the United States, we produced only 125 new teachers of physics." Then he proceeds to sell a scare story like soap.

Another person who has too little time or opportunity to explain vital facts to the speakers and writers who need them is Kenneth E. Brown, mathematics specialist in the U.S. Office of Education. He has indirectly refuted some of the current false assumptions by reciting factual materials with which educators should be familiar in "National Enrollments in High School Science," published in the March 1956 issue of *Science Teacher*.

Those who deprecate our school system (and glorify the near-monolithic system of Russia as much as they dare) usually fail to take into account the fact that nearly all persons of high school age in our country are now in school while only a minor fraction of their age group attended school a few decades ago. When a speaker says 19 per cent of high school students enrolled in physics in 1900 contrasted with only 4.6 per cent in 1954, an entirely different impression is left than when one says with equal accuracy that there were 98,846 high

school physics students in 1900 and 302,800 in 1954.

On the basis of a 10 per cent random sample of public high schools, Mr. Brown estimates that 23.5 per cent of high school graduates in 1954 had a course in physics; that enrollment in chemistry was 482,700, or 31.9 per cent, of all 11th grade pupils; that 1,204,500, or 64.5 per cent, of ninth graders enrolled in elementary algebra; that 644,100, or 37.4 per cent, of all 10th graders enrolled in geometry. In 1900, biology was not taught as a high school subject at all, but in 1954 indicated enrollment was more than 1,200,000. It seems clear that there has been increased teaching of science in recent years. Not enough, perhaps, but the facts are far different than the sensationalists make them appear to be.

Another misleading technic is to state the *percentage* of high schools not offering physics or chemistry. It may not occur to most readers or listeners that these are the smallest high schools. It should be known that the latest data show that the 50 per cent of the high schools that are smallest enroll less than 11 per cent of all high school students. The remaining 89 per cent of the total enrollment is in the 50 per cent of the high schools that are largest, and most of these students have adequate opportunities in science and mathematics. Even more surprising is the fact that more than one-half of all high school students attend the 10.8 per cent of high schools which are largest and which have excellent programs in these fields.

While the present situation is in fact far better than is advertised, there are nevertheless numerous real deficiencies that should be attacked with vigor. Most of these deficiencies are found in all parts of the instructional program, however, and care must be exercised lest we undermine major strengths of the entire school system in the process of isolating science for

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special treatment. Even in Russia, specialization does not begin until at least the eighth grade.

The American ideal calls for general education, including education in science and mathematics, throughout at least 12 years for most students. To get more scientific personnel we need to strengthen our school system so that more and better prepared young people will be graduated from high schools, and then enroll and retain a larger percentage of competent graduates in colleges offering improved curriculums in science and engineering.

Expedients

► A number of plans have been offered to help the schools produce more scientists. A good illustration is that proposed by Gen. David Sarnoff of the Radio Corporation of America to increase the supply of high school science teachers. He would release scientists and engineers from industry to teach in local schools for periods of a year or longer. The plan shows an excellent spirit of cooperation by industry and could be temporarily helpful in many localities. It would partly

compensate for past employment of science teachers in industry and make other industrial leaders more sensitive to the undesirability of stripping the schools of science teachers.

Circumstances, however, probably foreclose long-term dependence on lend-lease arrangements with industry. Schools needing most help are often distant from the supplying plants and research laboratories. The companies would not only lose the services of badly needed scientists and engineers but would also have to pay salary differentials, and only great enthusiasm can make this sort of sacrifice permanent in most corporations.

Unless the temporary teachers had previously taught high school students, many educational problems would be likely to arise which might make the work difficult and undesirable for both teachers and students. Such problems could be much less formidable for recruits from industry, however, than for retired military officers and other supplementary personnel often suggested. In any event, General Sarnoff's plan and any other reasonable expedients should be given full and fair trials by school administrators.

Federal interest

► Since the source of concern about the supply of scientists and engineers lies primarily in national defense, it is not surprising that the federal government has already taken strong action.

The National Science Foundation was created in 1950. After a slow start, its budget has been increased from \$16,000,000 in 1956 to a probable \$35,916,000 for 1957. Thus far the Foundation has given most of its attention to research at advanced levels, but it may soon accelerate its impacts on secondary education. Without any statutory admonition not to interfere with state and local autonomy in education, the Foundation is directed by statute "... to develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences." This is a very broad grant of power.

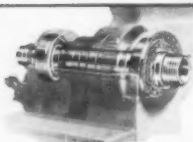
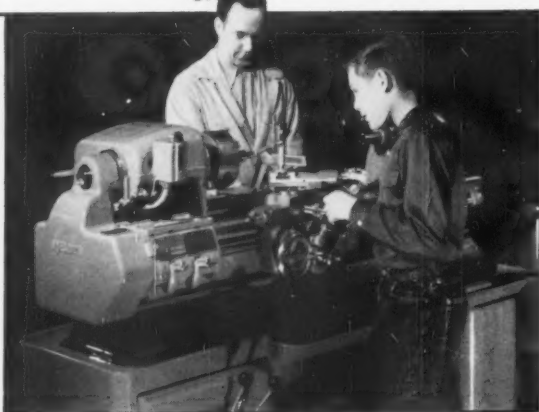
The Atomic Energy Commission and the Department of Defense spend huge funds for scientific research and engineering. Congress has not restricted itself to supporting federal programs solely for defense but subsidizes scientific research in many areas through such agencies as the Public Health

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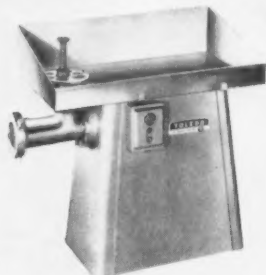


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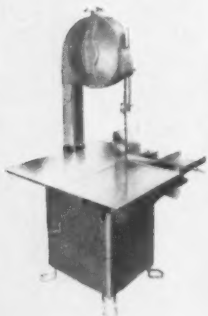
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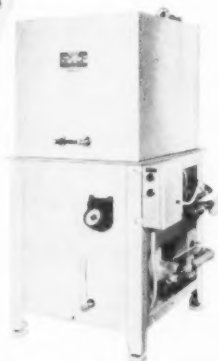
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Service and the Department of Agriculture. Now that the *Congressional Record* is filled with statements about how the Russians are exceeding us in educating scientists, a congressional tendency is also developing to extend special federal action to schools.

Last year Representative Davidson of New York introduced a bill to appropriate up to \$250,000 annually to enable the U.S. Commissioner of Education to finance the preparation, publication and distribution of science teaching manuals for supplementary use in elementary and secondary schools.

The Davidson bill said that "... current progress in scientific fields is so rapid that it is impracticable for elementary and secondary schools to change textbooks with sufficient frequency to keep pace with new developments." No hearings were held on this bill.

On February 22 Senators Kerr, McNamara and Monroney introduced a bill which, if seriously considered, would bring the federal potentialities in this field home to all educators. They propose that science be added to the subjects covered by the George Barden vocational education law of 1946, with an annual appropriation of "... \$10 million for education in the various fields of science (including mathematics) essential to vocational education... to encourage and prepare for further scientific training in order to supply the nation's scientific manpower needs."

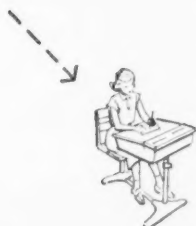
Under this bill every state would have to prepare a "state science plan" to qualify for funds. The U.S. Office of Education would be allowed \$200,000 annually to administer the act. It is unlikely that hearings on it will be held, because it is known that most educators will react negatively. The bill would authorize a special federal subsidy for a special part of the curriculum and define federal interest in high school science instruction as a part of vocational education.

Last month a subcommittee on research and development of the congressional joint committee on atomic energy issued a report entitled "Engineering and Scientific Manpower in the United States, Western Europe, and Soviet Russia." In his preface, Chairman Melvin Price of Illinois urges federal spending for this special purpose and appears at the same time to imply that federal grants to education are bad. He concludes, "Only the

buy the desk designed for **ALL** of the children

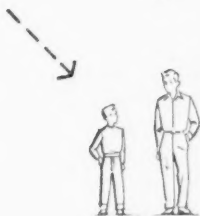
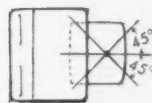


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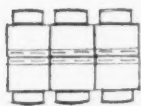
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federal government has the resources and prestige to produce a swift new emphasis on the training of an adequate number of qualified young people in the engineering and scientific fields."

Chairman Price will soon hold hearings "to dramatize to the public" the shortage of scientific personnel and to explore ways for the federal government to meet the shortage. It is hoped that the relationship of the elementary and secondary schools to the sources of scientific personnel can be established during these hearings.

Long-term programs

► Most educators seem to believe that the basic approaches to more and better scientists are the same as those that would result in better elementary and secondary schools generally: (1) salaries and status for teachers that will lead competent young people to enter and to remain in science teaching in spite of the lures of industry; (2) emphasis on pupil guidance to encourage interest in scientific subjects and particularly to reduce the drop-out rate in high schools; (3) reorgan-

ization of school districts with new construction of larger schools to ensure more adequate science laboratories and science curriculums.

At the college level, the principal improvements needed are believed to be: (1) scholarships to encourage more competent students to attend colleges and universities; (2) more attractive and effective programs of instruction in science and engineering to reduce the current drop-out rate in those fields.

Of these approaches, the most neglected have been those relating to the elementary and secondary schools. Research scientists, university administrators, and governmental agencies have not often concerned themselves constructively with dealing with the problems of the schools which are their basic sources of personnel supply. Now, when that supply appears to be at least temporarily inadequate, they cannot afford to become proponents of educationally unsound plans that may in the long run weaken rather than strengthen the schools. They are probably cooperating better than ever before with school agencies.

College graduating classes are growing larger as the low birth rate years of the 1930's fade into the past, and the large age-groups of the postwar years will soon be in high school. Perhaps we have the necessary scientific personnel in sight if we will utilize all our human resources. To illustrate, a revision of military draft rules could save much scientific personnel for science, and not all fully trained personnel is used to best advantage in industry and government.

In our zeal to produce more scientists and engineers, we need to take other educational needs into account. It may be that science and engineering should be willing to compete for the most competent high school graduates on an equal basis with other fields. No one can be certain that the priorities a few years from now will not be for persons who can speak Chinese and Russian fluently, or who understand the culture we desire to preserve, or who know how to educate or re-educate populations. Totalitarians have habitually overemphasized technology and underemphasized how it should be used in human society. Let us strike a balance between complacency and hysteria, and attack the shortage of scientists along with other problems by strengthening schools and colleges for all their functions.

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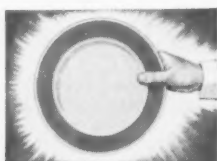
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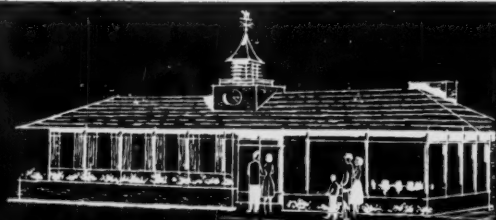
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NEWS IN REVIEW

Federal Milk Program Expanded by New Law

WASHINGTON, D.C. — On April 2 President Eisenhower signed a revised version of the bill "to increase the consumption of fluid milk by children."

There are two principal differences between this and the previous law which has been in effect since September 1954. Funds for the current year were increased from \$50 million to \$60 million and for each of the following two years further increased to \$75 million.

The new law has also increased the number of children eligible to receive milk. In addition to those in school, needy children in special welfare institutions are now included.

Educational circles here believe that administrative headaches are certain in defining who are "underprivileged" and in allocating funds to "nonprofit nursery schools, child care centers, settlement houses, summer camps, and similar nonprofit institutions . . . devoted to the care and training of underprivileged children on a special welfare or charitable basis."

Urges Scholarship Plan for Increase in College Educated

WASHINGTON, D.C.—The number of capable students who do not attend college constitutes a serious national problem, asserts Elmer D. West, author of the recent study, "Background for a National Scholarship Policy." He proposes that a generous scholarship program would help to alleviate the situation.

Mr. West's study, conducted under the auspices of the American Council on Education, showed that despite the critical manpower shortage in the U.S. "perhaps half of the top 25 per cent of high school graduates do not attend college."

One estimate of money needed to attract students who do not attend college for financial reasons was placed at \$200 million. Current estimates of available scholarship funds range from \$30 million to \$55 million annually, the report said.

Dr. West outlined the functions of an adequate scholarship program as follows: (1) to identify the talented

NAMELESS, KAN. —

—, who is now serving his fourth year as superintendent of schools here, has resigned, intending to find, as he puts it, "a more stable occupation."

—Reported in the
Nameless Herald.

student early, and to make this information known to appropriate agencies; (2) to inspire the talented to want the maximum intellectual development possible (calling for cooperation and improved activity by guidance personnel, teachers, colleges and community organizations), and (3) to develop procedures by which those who are qualified and who want a higher education can get it.

White House Committee Recommends Doubling of School Expenditures

WASHINGTON, D.C. — American taxpayers must realize that decent schools are going to cost them approximately twice as much as they've been spending. Teachers' salaries should eventually be doubled; they should receive substantial increases immediately. "Basic health and safety services" should be provided to students in parochial and other private schools "at public expense."

In fact, total spending for schools in the U.S. should be boosted to \$20 billion a year "within the next decade," according to recommendations of the 34 member White House Committee on Education. The committee, appointed by President Eisenhower last year, submitted its 50,000 word report to him April 6.

Neil McElroy, president of Procter & Gamble Co., was chairman of the committee. The report contained 79 specific recommendations in six areas.

The committee also recommended emergency federal aid to states to build about 200,000 new classrooms as fast as possible. "In the richest nation in all history, there is no valid reason for the grimy dilapidated and overcrowded school buildings which too

To Appeal Loyalty Law to Illinois Supreme Court

CHICAGO. — An injunction against the Illinois Broyles law requiring teachers to sign a loyalty oath has been denied by Circuit Judge Miner. Said the judge: "It cannot be claimed that the government is powerless to protect itself from possible espionage by its employees, including teachers, until they are actually exposed and upon us."

Two Chicago teachers who refused to sign the oath have appealed the case to the Illinois supreme court. Commenting on the appeal, Sara Pickus, one of the teachers, said: "Some men believe the way to meet the clear and present danger of Communist totalitarianism is by demonstrating our own lack of faith in freedom. I do not. From my reading of Supreme Court cases, some Supreme Court justices agree with me."

many children now occupy," the report said. It called for "a new look at the entire question of how much money this society should spend on education."

In recommending increased spending for education, the committee pointed out that "the schools have become the chief instrument for keeping this nation the fabled land of opportunity it started out to be. . . . It is primarily the schools which allow no man's failure to prevent the success of his sons."

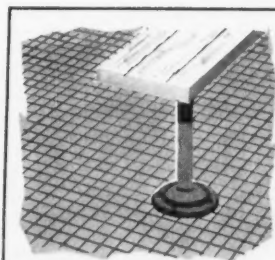
Other issues examined in the report included segregation, the place of religious education in public schools, and the rôle of athletics. The majority of Americans want to abolish segregation, the report said, but this cannot be achieved "with equal speed in all areas . . . it must be worked out by each community in its own way, within the framework of existing legal structures and the . . . Supreme Court decisions."

There should be continued study at all levels of the extent to which public schools may take cognizance of religious values, the report said. It also
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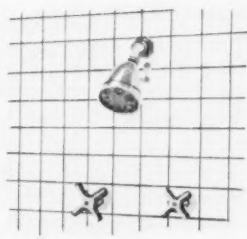


1. Washrooms

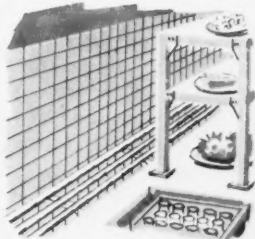
In schools... five key areas need tile



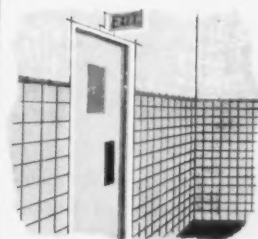
2. Locker Rooms



3. Shower Rooms



4. Kitchens and Cafeterias



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NEWS

Student Teachers to Observe High School Classes on TV

MINNEAPOLIS. — Teachers-to-be at the University of Minnesota will watch high school classes in action over closed-circuit TV in the near future. The university is initiating a three-year experiment in which customary field observation will be replaced by live or kinescoped TV classes.

Selected students planning to enter high school teaching will participate in the project. The program will be financed in part by a grant of \$14,266 from the Fund for the Advancement of Education.

According to Prof. Robert J. Keller, project director, preliminary experimentation has shown that student observers prefer it to other methods of observation. The attention seems better directed than is the case with live class observation, he said.

David D. Henry, Vice President of Higher Education Committee

WASHINGTON, D.C. — President Eisenhower has named David Dodds Henry, president of the University of Illinois, vice chairman of the President's committee on education beyond high school.

Devereaux Colt Josephs, New York insurance executive, was named chairman. The committee has been appointed to "lay before us all the problems of education beyond the high school and to encourage active and systematic attack on them," the President said.

To Test Enriched Program for Acceleration of Students

AUSTIN, TEX. — A unique plan to allow gifted high school students to begin capitalizing early on their special abilities will be tested this summer at the University of Texas.

A selected group of students will be invited to a six weeks' university summer session between their junior and senior years. During the session, advanced studies, not available at the high school level, will be provided, and students will be given an understanding of what they need to reach the top in their special field of interest.

It is expected that students will be able to use their senior year more

profitably after having had the enriched courses.

On entering college, the students would be allowed to accelerate their course work by passing examinations which would exempt them from certain studies. Credit for the courses would be given, however, allowing the students to graduate from college more quickly.

In announcing the program, L. D. Haskew, dean of the college of education, said he believed that it would be applicable to virtually all fields. The pilot project this summer will be restricted to chemistry students.

Names Group to Study Scientific Manpower Supply

WASHINGTON, D.C. — President Eisenhower last month appointed a committee to find ways of increasing America's scientific manpower. The President said that American technological superiority "is now seriously challenged by those who use science for aggression and conquest."

The new group, known as the National Committee for the Development of Scientists and Engineers, has been asked by the president to analyze the problems connected with developing more highly trained scientific personnel; to enlist the cooperation of interested individuals and groups in dealing with these problems, and to publicize the problem and possible solutions in order to stimulate public understanding and support.

Howard Landis Bevis, president of Ohio State University, will serve as chairman of the new committee, which includes representatives of the field of engineering, science, education, management, labor, state and local government, and the humanities. Arthur S. Adams, president of the American Council on Education; Irwin Stewart, president of the American Association of Land-Grant Colleges and State Universities; J. Lester Buford, president of the N.E.A.; Robert Stollberg, president of the National Science Teachers Association, and Leland N. Drake, president of the National Association of Secondary School Principals, were named to represent the field of education.

Edgar Fuller, executive secretary of the Council of Chief State School Officers, will serve as a representative of the state and local government section of the committee.

White House Committee Urges Doubled Expenditures

(Continued From Page 128)

indicated that athletic programs should be "controlled so that they serve young people rather than use them" to build up a school or a community's competitive standing.

The committee praised the nation's educators for doing a good job with what they have. "There is far more to be proud of in today's schools than there is to criticize. Their weaknesses usually stem from a lack of means, rather than any defect in their goal."

The committee also supported a broadened school curriculum, including safety, vocational and music courses, health services and organized recreational and social activities. However, quality of teaching must not be sacrificed for a quantity of different courses, it pointed out.

Most school districts are too small, the committee said, calling for "major reforms" in district organization. The committee suggested that money, except for local funds, might be withheld from districts that do not organize on an efficient basis after a reasonable time.

The final report of the committee was based on a 16 months' survey of the nation's schools organized by the committee. It also included results of the White House Conference.

Says Church Schools Superior; Wants No Tax Money for Them

WASHINGTON, D.C. — Archbishop of Philadelphia John F. O'Hara assailed methods of education in the public schools and declared he did not want tax money for parochial schools in a recent address here.

Speaking to the eighth annual Catholic Teachers Institute here, the prelate said Catholic schools are doing a superior job to what he called "washed-out education" in public schools.

The archbishop stated he would not accept one cent of tax money for parochial schools in his jurisdiction.

"I hope the day will soon come when Catholics will recognize the fact that in their own traditions they have not only the philosophy but the methods and the record of achievement that make them independent of the empirical systems of education that are falling apart all over the United States," he said.



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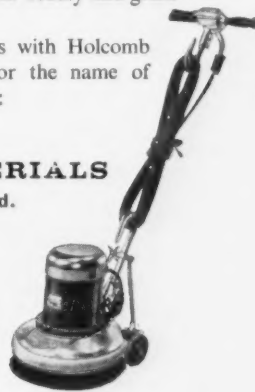
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NEWS

Yonkers to Get State Aid; Survey of Schools Urged

ALBANY, N.Y. — State Commissioner of Education James E. Allen Jr. has decided that the city of Yonkers will receive its full allotment of state aid, some \$2.5 million, for the year 1956.

Dr. Allen said he is satisfied that the schools are being improved but asserted that he was not fully convinced that the city's program was adequate. He called for a report to

be made January 1 on the educational program for 1956 and on plans for 1957.

His predecessor, Dr. Lewis A. Wilson, had threatened last year to withhold all state funds unless the city's budget provided for an adequate school program.

However, in a statement regarding the decision, the commissioner strongly urged that a comprehensive survey of the school problem in Yonkers be made. A survey to be directed by

the state department of education and jointly financed by the city of Yonkers and the state is being considered.

Censure of Five Universities Asked by Professors Group

NEW YORK. — Attempts to curb the academic freedom of teachers have made the teaching profession seem less attractive to intelligent young men and women, charged a recent committee report of the American Association of University Professors.

In a 58 page statement, the committee also called for censure of five colleges and universities for alleged violations of academic freedom and tenure. The University of California, Ohio State University, Rutgers University, Temple University and Jefferson Medical College of Philadelphia were criticized for having dismissed faculty members who pleaded the Fifth Amendment before congressional investigating committees or refused to cooperate with the committees. Five other colleges are still under investigation.

In any dismissal proceeding, the committee said, action should be based on the teacher's whole record and conduct, rather than on any specific act or association. It held that pleading of the Fifth Amendment was not sufficient to justify dismissal. The committee also condemned loyalty oaths.

Howard L. Bevis, president of Ohio State University, took issue with the association on the grounds that it had published a finding concerning the university "without notice, without hearing, and without knowledge of many important facts." He also stated that the university took issue with the premise that firing a Communist teacher violated academic freedom.

The recommendation that the University of California be censured in connection with its long loyalty oath controversy was described as "unjustified and singularly inappropriate at this time," by Clark Kerr, chancellor of the Berkeley campus. Dr. Robert Gordon Sproul, president, said that the issue of back pay for faculty members dismissed and later reinstated had been settled by negotiation. This issue was stressed in the committee report, he said.

Spokesmen for the other three universities declined comment on the committee's recommendations.



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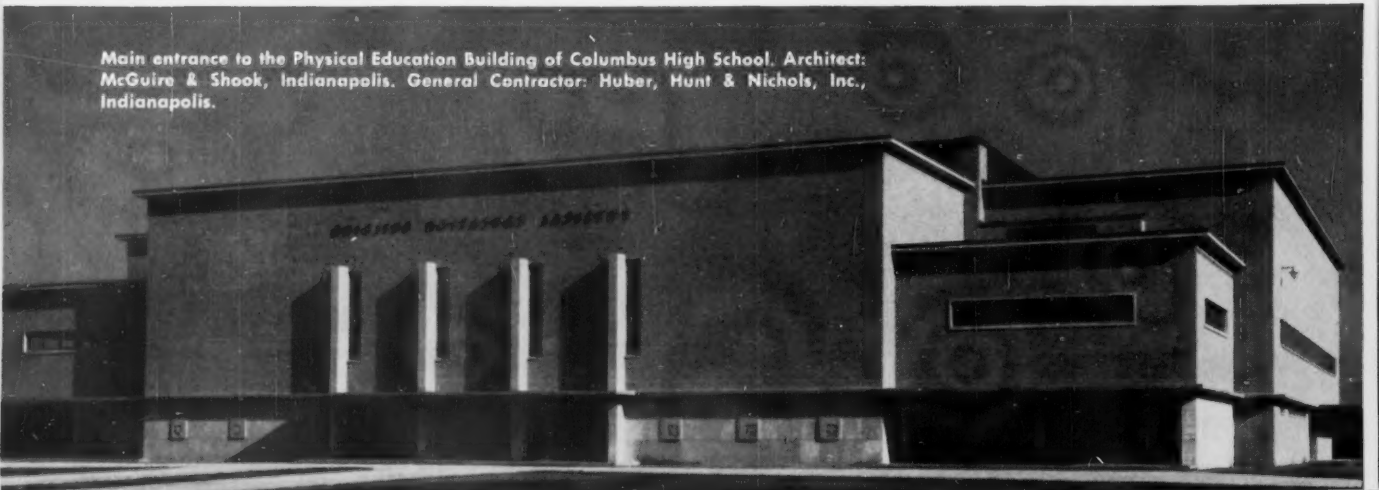
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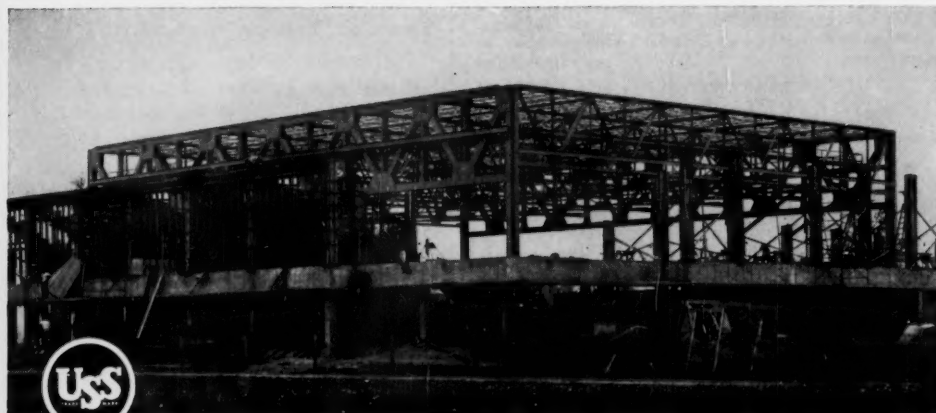
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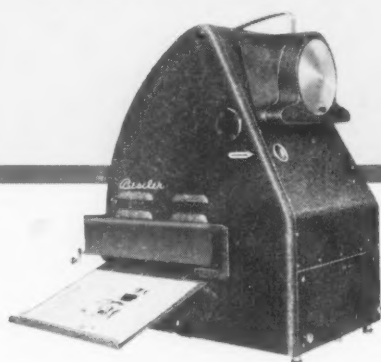
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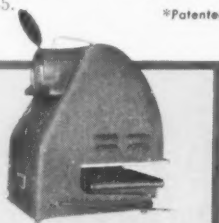
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NEWS

Asks Control of Junior High Interscholastic Activities

URBANA-CHAMPAIGN, ILL.—Junior high school interscholastic competition needs the same kind of regulation that is exercised over high school competition, Prof. J. Lloyd Trump of the University of Illinois said recently.

Dr. Trump recommended that a board of control, similar to that of the Illinois High School Association, be established in the state. The board, he pointed out, would prevent exploitation of young athletes by exercising rigid control over interschool competitions. Other interscholastic events, such as music and speech contests, also would be regulated by it, he said.

Dr. Trump spoke to some 500 junior high and elementary school principals attending a conference on extraclass activities at the University of Illinois.

He also recommended that junior high schools emphasize intramural rather than interscholastic competitions. In interscholastic competition, he said, more teams should be used, and there should be fewer games per team.

Foreign Relations Program to Be Tried in High Schools

CHICAGO. — Twenty-eight high schools in the Midwest will participate in an experimental program of foreign relations education being initiated this spring.

The program is being carried out by the North Central Association under a \$125,000 grant from the Ford Foundation. Among the objectives of the project is the development of comprehensive source materials on international relations that may be read and understood by high school students.

Public and Educators Air Views on Reading Methods

BRIDGEPORT, CONN. — Three Connecticut school systems cooperated with a near-by college of education recently to provide a public airing of controversies about reading methods and instruction.

Parent groups, women's clubs, and civic and industrial groups were invited to attend a one-day conference here, sponsored by the school systems of Bridgeport, Stratford, Fairfield and



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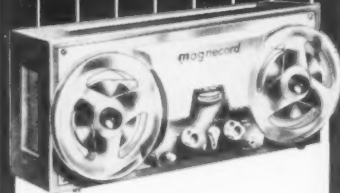
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NEWS

the college of education of the University of Bridgeport.

In 20 discussion groups, participants had an opportunity to voice opinions and questions about how Johnny learns to read. Some 60 educators from the Connecticut area served as chairmen and resource persons for the discussions.

Speakers at the conference included Paul Witty, professor of education at Northwestern University, Donald D. Durrell, professor of education at Boston University, and Anne S. McKillop, professor of education, Columbia University.

Hold Teacher Placement Day at University of Illinois

URBANA-CHAMPAIGN, ILL.—Some 100 Illinois superintendents and principals interviewed a group of 250 prospective teachers here in the University of Illinois' first Teacher-Placement Day.

To allow a maximum number of interviews, the day's program was divided into three shifts. During each shift, senior students first talked with school officials selected for them by lot, and then with those from districts in which they were most interested.

The program will be expanded next year, according to J. L. Trump, head of teacher placement at the university. Both students and administrators found the experiment helpful, he said.

Pupil-Teacher Ratio Has Priority in Private Schools

BOSTON. — Private schools are also feeling the impact of today's large school age population. But, according to a report by Porter Sargent, publisher of a handbook for private schools, most private schools are not contemplating greatly enlarged enrollments.

Any growth in enrollment is being governed by the ability of schools to enlarge their facilities and teaching staffs.

The report points out that the major concern of the private school is to maintain high standards of education and a ratio of faculty members to students which helps to ensure these standards. For the last 10 years, the student-faculty ratio has remained fairly constant at 10.3 to 1 in the nation's leading private schools.

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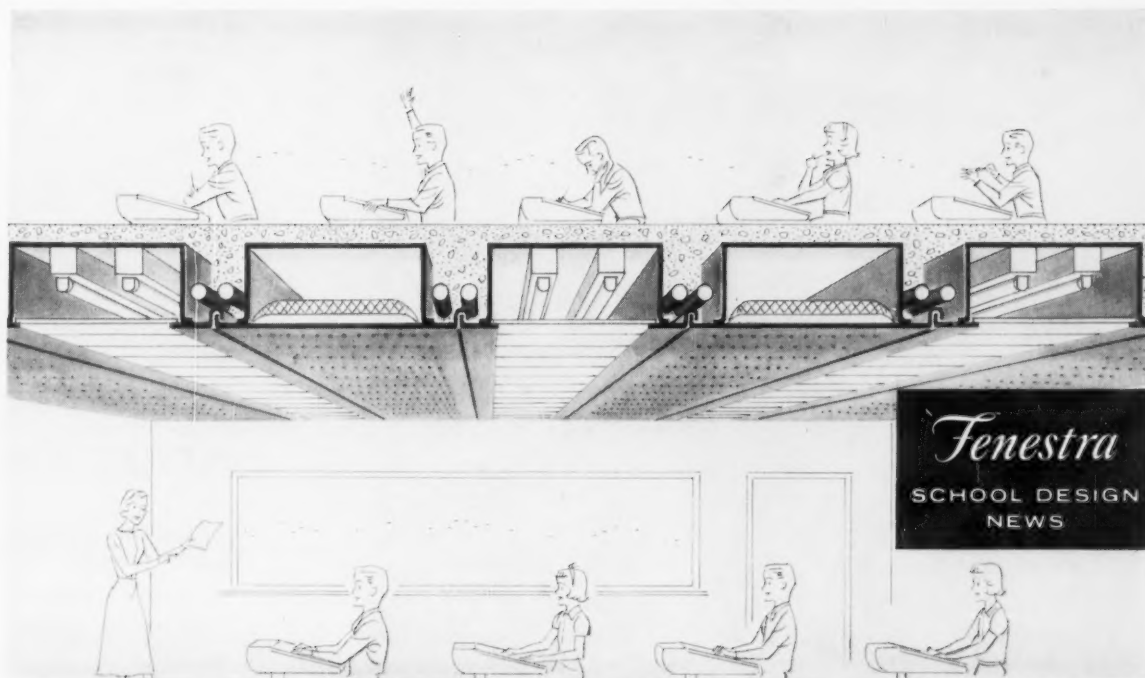
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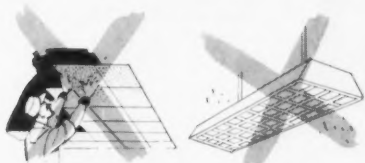
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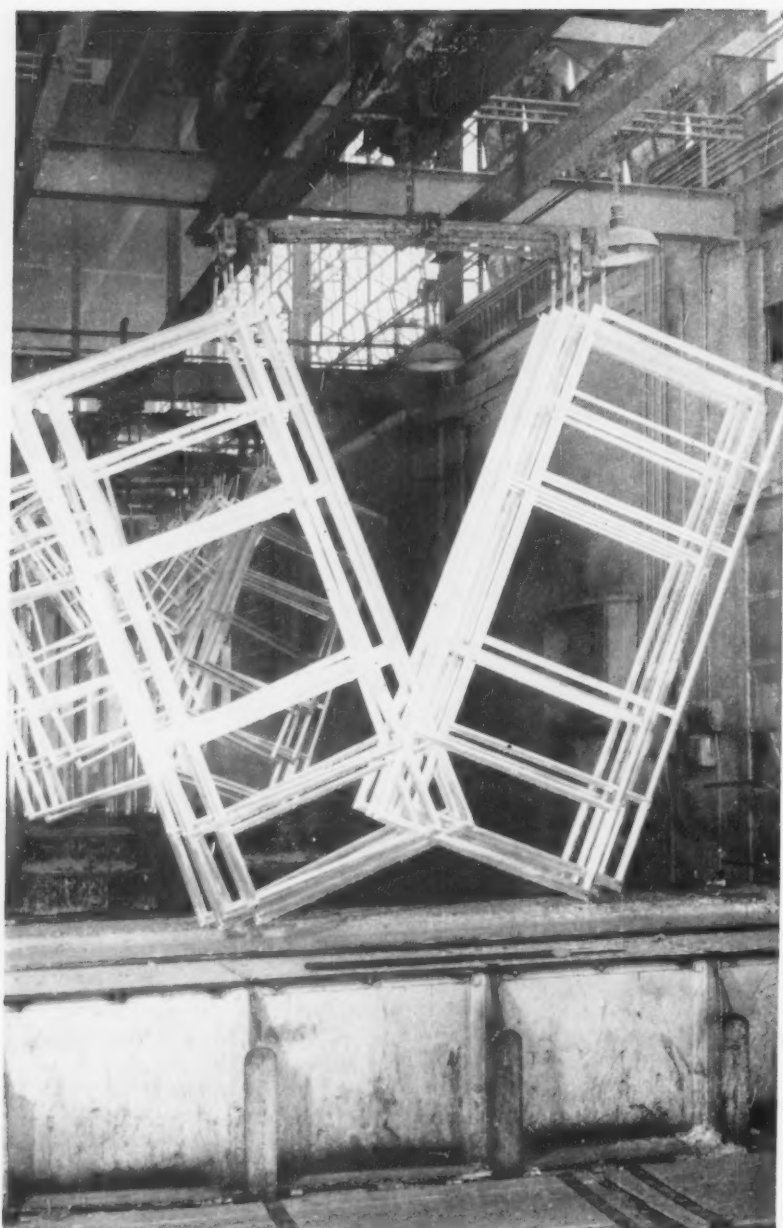
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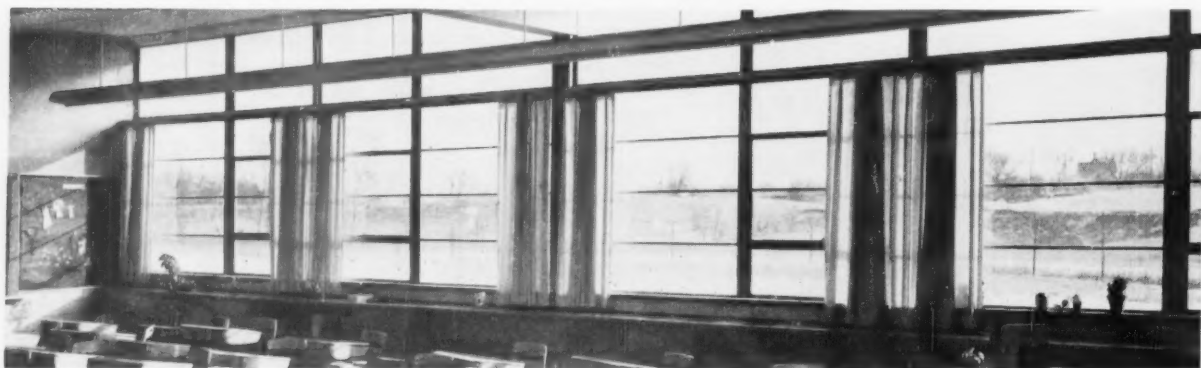


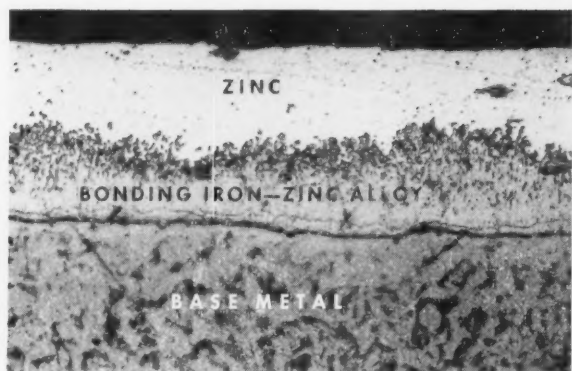
FACTS ABOUT THE FENESTRA

Fenestra Windows are cleaned, pickled, rinsed, fluxed, dried and then galvanized by completely immersing in molten zinc. Bonderizing adds extra protection and a smooth silver-gray finish.

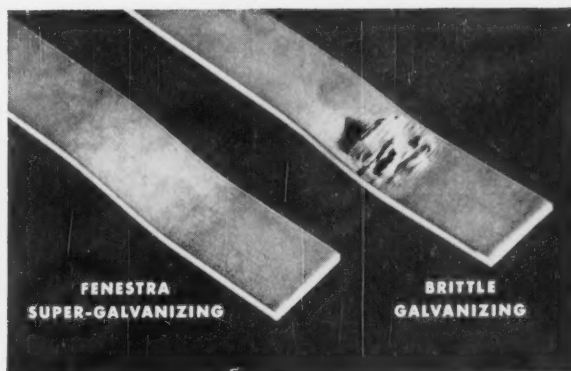
The Fenestra process controls automatically the exact time and temperature for the finest finish.

Fenestra Galvanized-Bonderized Intermediate Steel Windows are weathertight and easy-to-operate year after year without painting! This handsome classroom is in Geir Park Elementary School, Lansing, Michigan. *Architect—Simpson & Hartwick, Lansing. Contractor—Granger Bros., Lansing.*





This microphotograph shows how the zinc coating alloys with the steel base. Fenestra's Galvanized-Bonderized Finish is *self-healing*—small breaks in the surface are automatically closed by sacrificial action of the zinc, leaving the steel protected underneath!



Bend Test demonstrates the durability of Fenestra Super Hot-Dip Galvanizing. A gradual iron-to-zinc transition from the base metal, through zinc-iron alloys, to the outer layer of relatively pure zinc assures a lifetime bond. Ask your Fenestra representative for this demonstration.

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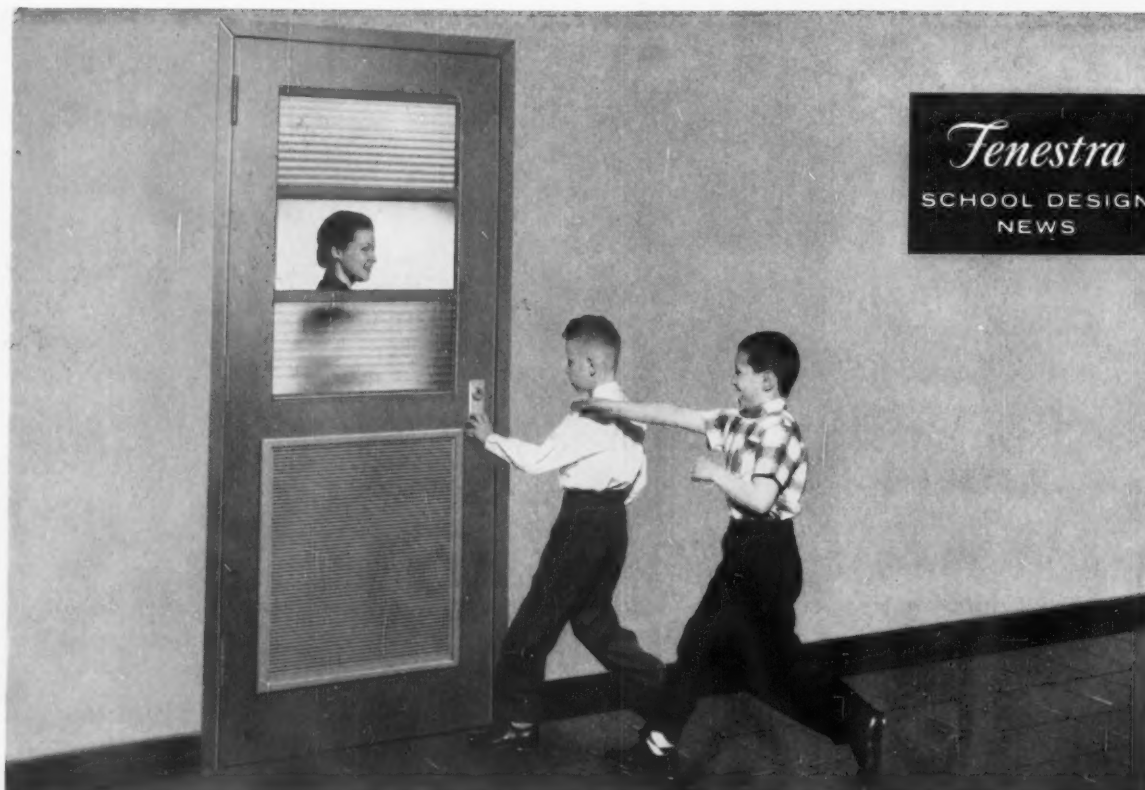
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City State

School Board Members like the good looks and low maintenance costs of Fenestra Galvanized-Bonderized Intermediate Windows. Here's one of many recent installations. Darby Elementary School, Darby, Pa. *Architect*—Horace W. Castor, Philadelphia. *Contractor*—Sidney Elkmann, Philadelphia.





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Fen-Air Doors feature the New Fenestra Lock-Miter Joint rolled steel frame, Bonderized, with a baked-on prime-paint coat. High-quality Fenestra hardware and accessories complete the package.

The door illustrated above is glazed with a combination of patterned and clear glass designed especially for school classrooms. The horizontal bars may be removed for installation of a single pane of glass if desired.

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NEWS

Says Democracy in Education Must Be Clearly Understood

CINCINNATI. — Conflicts and problems in educational situations frequently arise from fuzzy thinking about freedom, responsibility and democracy, a specialist in student personnel asserted recently at a convention held here.

Speaking to the National Association of Women Deans and Counselors, M. Eunice Hilton, president, outlined some of the difficulties that may result

from ill defined efforts to "be democratic."

Dean Hilton criticized the belief that individual freedom can be exercised irrespective of the rights and welfare of others. Students must be helped to learn that every right carries a corresponding responsibility; freedom can only be maintained, she pointed out, when individuals learn to care about and protect the freedom of others. It takes wisdom and courage for teachers to correct the

fuzzy thinking of students, when they try to carry out democratic ideals in their student life, she added.

Another misinterpretation of democracy, Dean Hilton said, is that no one in a democratic society should be any better than anyone else. The pressure to conform, to be like everyone else, often kills student initiative and leadership, she observed.

A third faulty understanding of democracy is that it requires that everyone in a group be responsible for everything about the group and have a part in all decisions concerning it. Democracy means that power is held by all the people collectively; however, it does not mean that everyone has the same rôle or participates in the management of the group in the same way, she pointed out.

The trend toward student participation in all phases of administration requires a clear understanding of the rôle of faculty, administration and students, Dean Hilton continued. The student's main responsibility should be to get an education, and the sharing of other responsibilities should not interfere with this goal; the major job of the faculty is to advance and impart knowledge through teaching and research; the administrators are basically responsible for the conditions and facilities of learning, she said.

Some of the responsibilities may be delegated, but the delegations must be appropriate to the real rôle of the groups concerned.

"An endless amount of time and energy is being wasted in our schools in the name of democratic procedure, and not a little emotional distress is being caused by rôle confusion," Dean Hilton pointed out.

The association's convention was held here March 22 to 29. Katherine A. Towle, dean of women and associate dean of students, University of California at Berkeley, was named president-elect of the group.



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Workshop Planned to Increase Supply of Science Teachers

NEW YORK. — A year-long workshop aimed at increasing the supply of well trained high school teachers of science will be initiated at Teachers College, Columbia University, this fall. The workshop is designed for professors at teacher education and liberal arts colleges that prepare sci-



From his desk, Dr. J. C. Witter, Superintendent of Schools, Caney, Kansas, is in instant two-way conversation with teachers.



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NEWS

ence teachers. It will be given in cooperation with industry.

Participants in the workshop will revise and bring up to date science curriculums for use in high schools. Attention will also be given to making colleges and universities more aware of the scientific manpower shortage. Technics for identifying and recruiting gifted students for scientific careers will be developed.

Workshop members will study under fellowships made possible by corporations, foundations and the college. Cost of the program for the first year will be \$79,000, to be underwritten jointly by industry and the college.

One criterion for selecting fellowship candidates will be their "ability and willingness" to pass on their knowledge, said Frederick L. Fitzpatrick, head of the science department at the college. Fellows will be expected to establish new training programs for high school teachers at their own colleges, using the training materials and course which they helped to develop during the workshop.

New Reading Association to Hold First Meeting

PHILADELPHIA.—The International Council for the Improvement of Reading Instruction and the National Association for Remedial Teaching have merged to form the new International Reading Association.

The group will hold its first annual meeting in Chicago May 11 and 12.

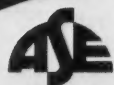
A.A.H.P.E.R. Considers Broad Meaning of Physical Fitness

CHICAGO. — Programs of physical education must meet the needs of the individual child and provide psychological satisfaction if they are effectively to promote physical fitness, Leonard Scheele, surgeon general of the U.S. Public Health Service, said recently.

Speaking before some 5000 delegates to the biennial convention of the American Association for Health, Physical Education and Recreation, Dr. Scheele pointed out that real physical fitness must be based on healthy development of physical, intellectual and emotional factors.

Total life experience affects the individual's capacity for physical fitness, Dr. Scheele said, pointing out that much mental and chronic illness

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NEWS

has its origin in early childhood. The cooperation of all individuals and agencies concerned with health is necessary to control the early causes of disability, he added.

Another convention speaker stressed the importance of increased personal satisfaction through physical education. Robert J. Havighurst, professor of education and chairman of the committee on human development at the University of Chicago, pointed out that both physical health and physical appearance are important to an individual's happiness in America.

Dr. Havighurst said that physical education has three important jobs in relation to a person's well being: (1) to teach skills through physical training, correct diet, and use of cosmetics and grooming; (2) to give understanding of physical limitations and defects so that the best adjustment may be made to them, and (3) to prepare persons for the bodily changes that accompany growth and aging.

He stressed that understanding of bodily changes is particularly important in adolescence because there is a

great deal of anxiety about physical development during this period. In high school programs, he said, the normal range of variability of individual development should be emphasized. Young people should be able to talk with someone who is trained to give reassurance and information about their concerns in this area, he added.

It is also important, Dr. Havighurst asserted, that high schools use criteria of skill and physical development in grouping students for physical education programs, so that students who are less skillful or whose development is slow may compete among themselves.

In the elementary school, Dr. Havighurst said, the child should be helped to develop the physical skills needed for childhood activities. Wholesome attitudes and habits in relation to the care and use of the body and about sex also should be developed during this period, he said.

The importance of developing good dietary habits in children was emphasized at a school lunch section, offered by the association for the first time this year. Surveys have indicated

that only 35 per cent of America's school children have an adequate diet, according to standards established by the National Research Council, one panel member pointed out.

The panel agreed that if real changes in eating habits are to be achieved, the cooperation and education of parents are essential. A school principal described a program in which all school parents are invited to lunch at the school sometime during the school year, so that they will have a better understanding of the purpose of the lunch program. Other panel members mentioned consultation with parents about eating problems of particular children.

Classroom activities and discussion to implement and reinforce the natural learning in the lunch program were also stressed as essential to its success. The panel members discussed a number of ways in which students could actively participate in the planning and carrying out of menus, service and dietary education.

"I don't see how so many things I don't like can taste so good!" one little boy was reported to have said in comment on a meal he had helped to prepare.

Delegates and students attending the five-day meeting took part in more than 100 discussion meetings, workshops, clinics and demonstrations.

Officers installed at the closing session of the convention were: president, Ray O. Duncan, dean of the college of physical education, University of West Virginia; president-elect, Patricia Ruth O'Keefe, director of health and physical education department, Kansas City public schools, Kansas City, Mo.; vice president, health education division, Robert Yoho, Indiana State Board of Health, Indianapolis; vice president elect, health education division, Sarah Louise Smith, professor and head of health education, Florida State University; vice president, physical education division, Elmon L. Vernier, public schools, Baltimore; vice president-elect, physical education division, Arthur S. Daniels, professor of physical education, Ohio State University, Columbus; vice president, recreation division, John L. Hutchinson, Teachers College, Columbia University; vice president-elect, recreation division, Louis E. Means, consultant in school recreation, California State Department of Education, Sacramento.

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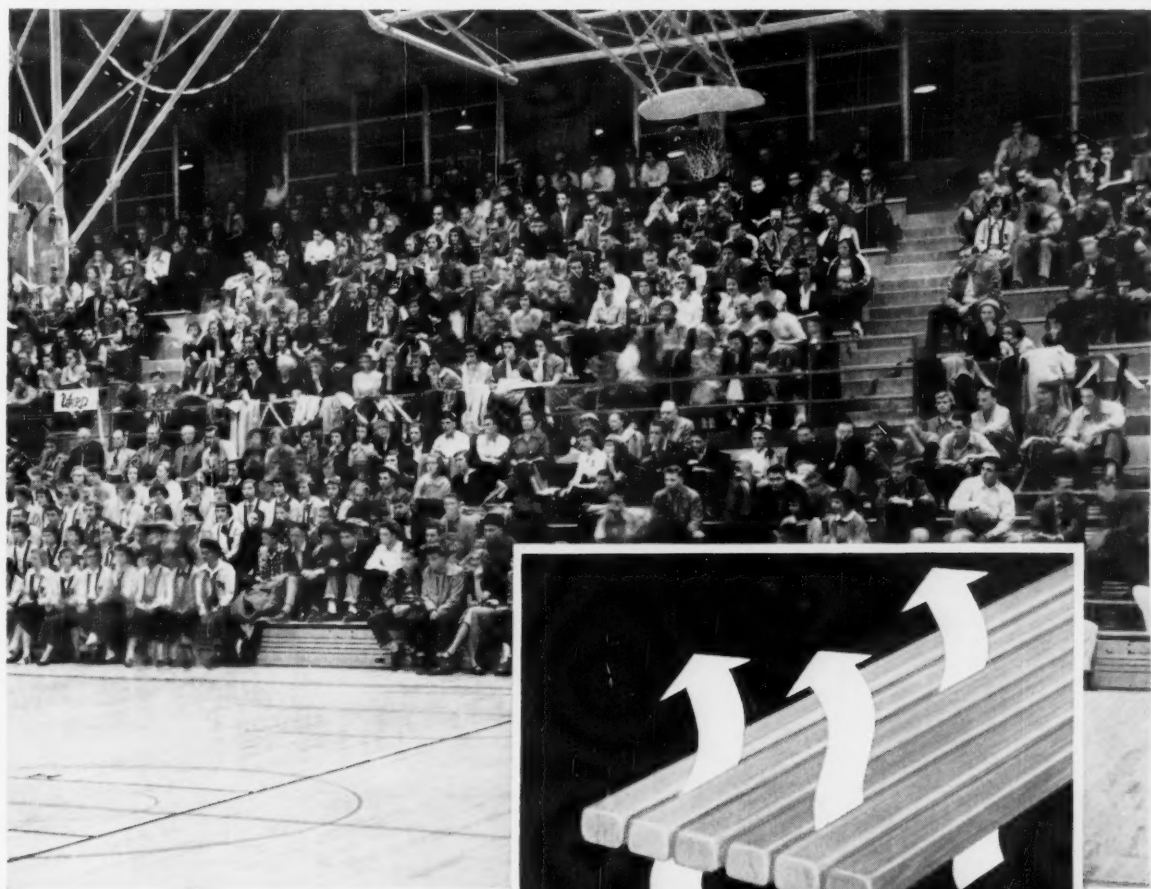
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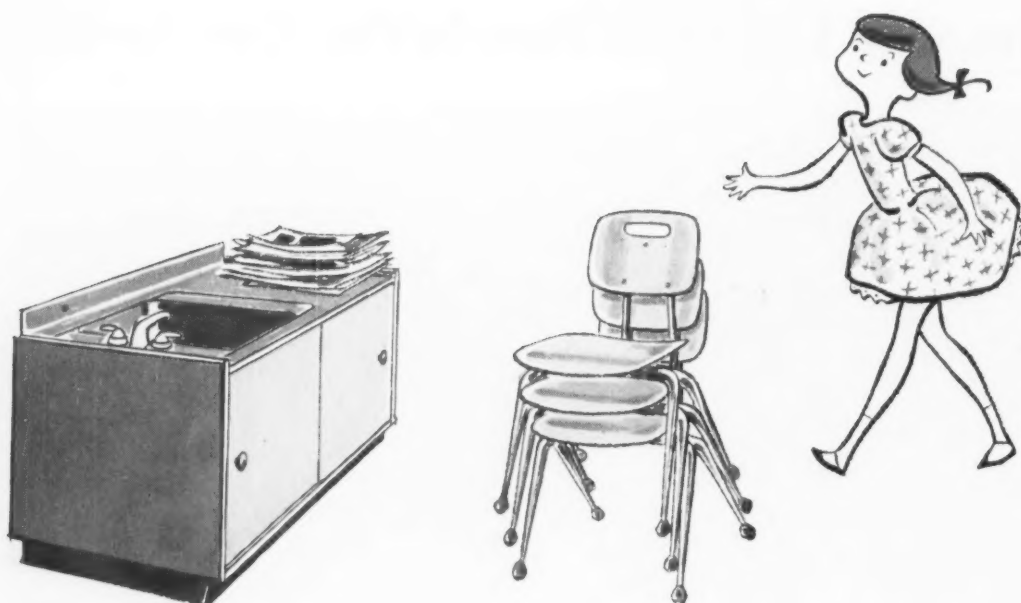
or closed. Greater resiliency means increased comfort, too, and the lighter weight means easier handling and maintenance.

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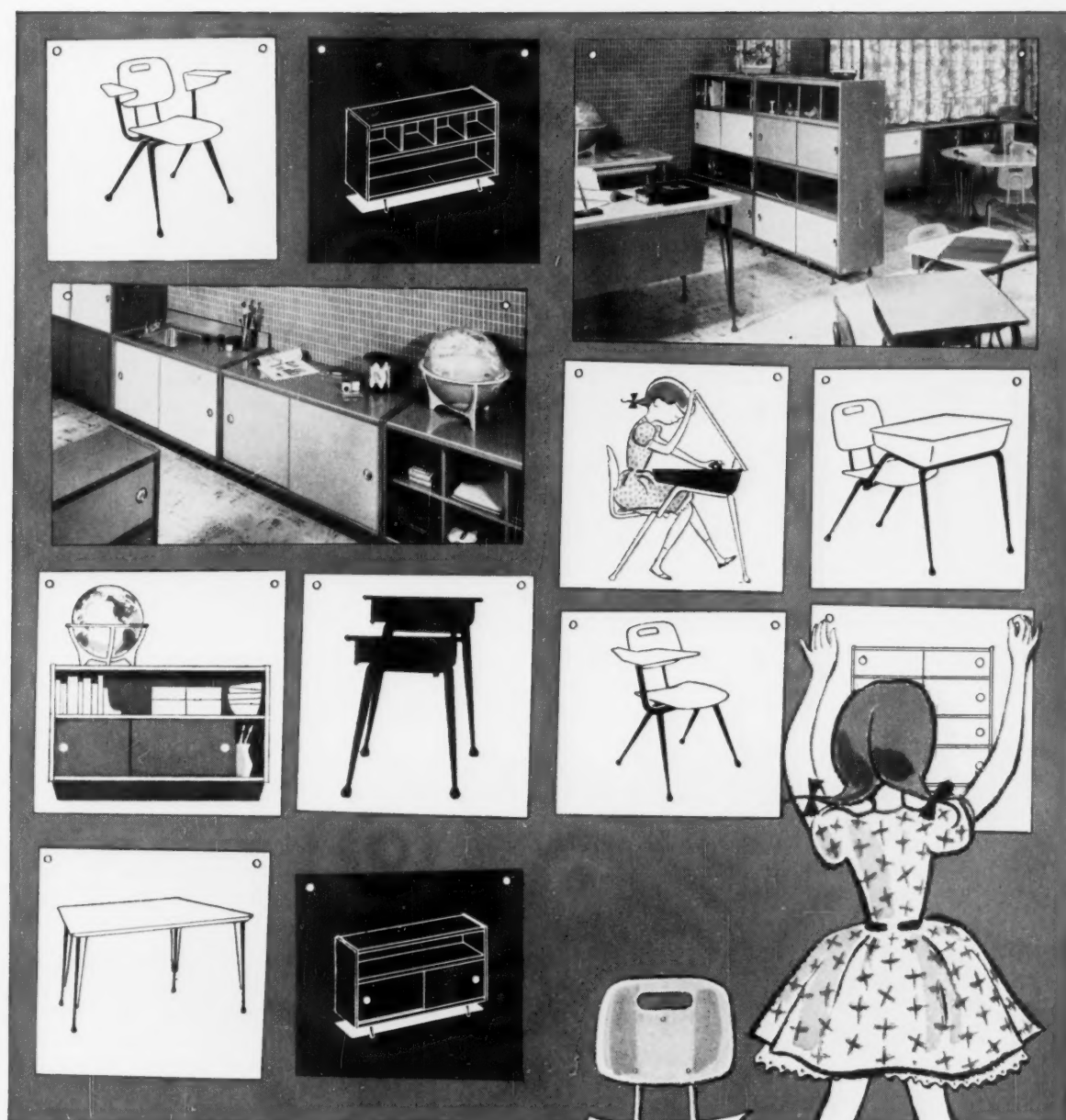




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NEWS

N.E.A. to Sponsor Washington Seminar for Teachers

WASHINGTON, D.C.—Government in action will be observed by teachers participating in the National Education Association's first Washington seminar this summer, June 25 to July 27.

As part of the five-week program, teachers will attend congressional sessions and have a chance to talk with officials in various departments and agencies of the government.

Six colleges and universities will offer academic credit for participation in the N.E.A.'s first Washington seminar.

Eight general topics will be covered during the five weeks' session: rôle of the federal city; making federal law; promoting the general welfare; educating and informing citizens; safeguarding our national security; participating in world affairs; pushing back the frontiers of knowledge, and preserving and extending our heritage.

Teachers Study Methods for English, Social Studies

NEW HAVEN, CONN.—Poetry and the 14th Amendment were part of the agenda for secondary school teachers at conferences held here recently. Five hundred teachers attended the two separate but concurrent conferences on the teaching of English and the teaching of social studies, sponsored by Yale University's master of arts in teaching program.

At the social studies conference, attention was focused on methods of teaching the United Nations Charter, problems of American minorities, and the 14th Amendment. Writing and poetry were studied at the English conference.

City Children Adjust Better to Early College Admission

NEW YORK.—Gifted students from metropolitan areas can skip their senior year in high school to enter college more easily than can their small town colleagues.

A recent report on the early admissions program instituted at Columbia University in 1951 showed that city youngsters are exposed to more interests than are those from the smaller town. They are more likely to be prepared to "start at the bottom of another ladder," said Quentin Anderson, adviser to the early admissions students at Columbia.

Under-age students from small town high schools are in general a poor risk for the challenging academic work of the college, the report indicated. Dr. Anderson pointed out that the experience of high school life looms large for these students, and they regret giving up the senior year, with all its social and personal pleasures.

Columbia is one of 11 liberal arts colleges participating in the early admission program, under the sponsorship of the Ford Foundation's Fund for the Advancement of Education.

Earn and Learn Basis of Teacher Training Plan

BALTIMORE. — Prospective teachers will be able to earn a half year's salary and a master's degree in education at the same time, under a new program here next fall.

Goucher College, in cooperation with the Baltimore public schools, has developed a new kind of internship

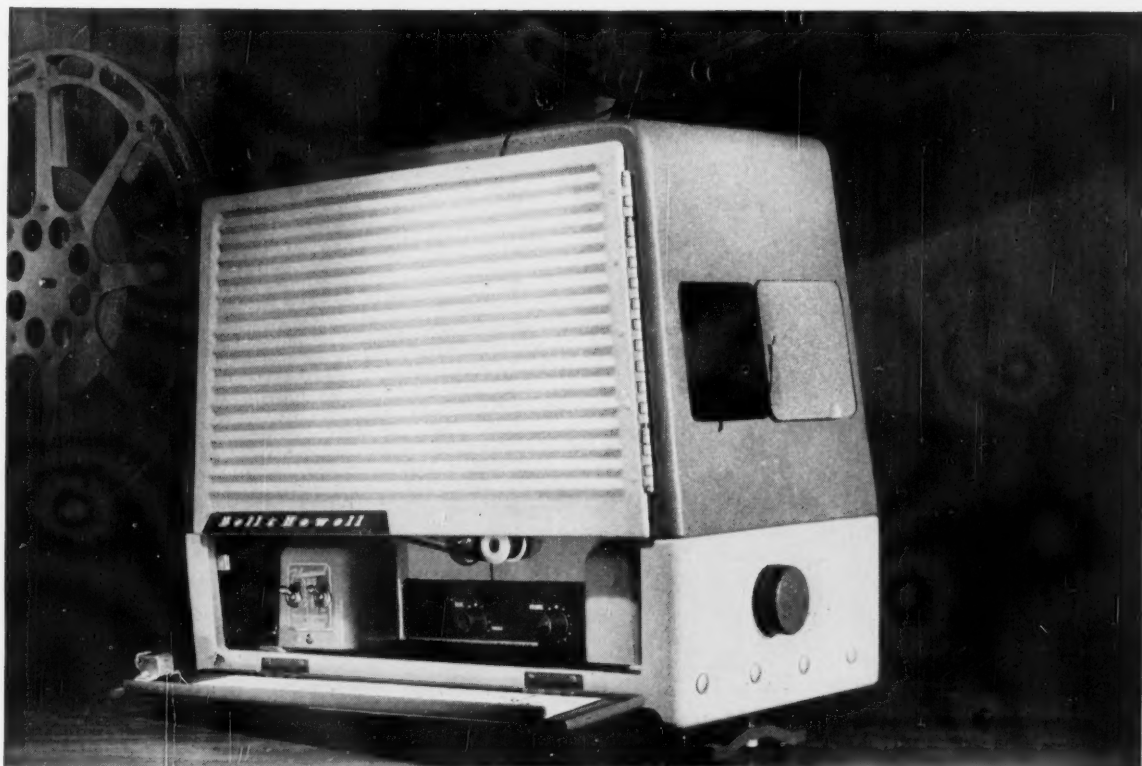
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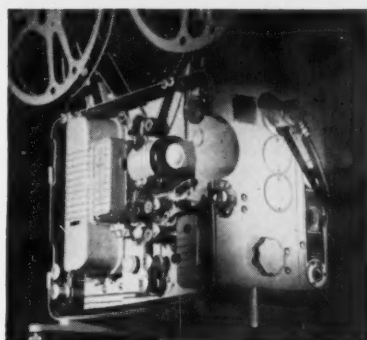
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NEWS

program in elementary school teaching. With an intensive schedule of classes, student teachers complete most of their classwork the first semester. From February 1 through June 20, they assume the full duties of a classroom teacher and are paid a salary of \$1550 for the half year's teaching.

School officials believe that the plan will be particularly attractive to married women who have not worked for some time and to liberal arts graduates who wish to enter the profession.

Monthly Roundup on Integration Indicates Inevitability of Some Form of Compliance

WASHINGTON, D.C. — While extremists tossed the integration issue high as a political football, President Eisenhower, with deep feeling, called for moderation and patience in working toward gradual integration.

The President's plea for moderation came a few days after 96 Congressmen had signed a "Declaration of Constitutional Principles," pledging them-

selves to use "all lawful means" to reverse the Supreme Court's decision of 1954.

The Southern manifesto described the Supreme Court decision as an abuse of judicial power that ran contrary to established law and the Constitution and encroached upon the rights constitutionally reserved to the states.

Showing sympathy for the difficulties the South faced, the President, nevertheless, was firm in stating that the decision must be applied, gradually and without coercion. He called for creation of a bipartisan joint congressional committee, which would study the record of compliance with the decision and would have the power to subpoena witnesses.

Within the South itself, there is some indication that most states feel the inevitability of some form of compliance with the desegregation ruling. The findings of a team of *New York Times* reporters, who recently completed a five-week investigation in 17 southern states, showed that the majority of Southerners are resentful and confused over the segregation issue but wish to deal with it by legal means.

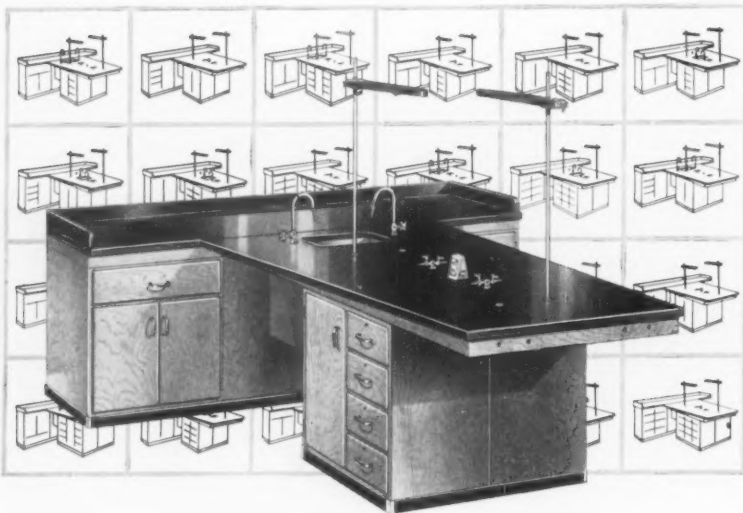
"While seeking adjustment, they are resisting drastic change by various devices to nullify, delay or moderate the impact of desegregation," the *Times* reported. "The commonest index to the degree of compliance is the ratio of Negro population to white in a given area. Where the ratio is low, integration is proceeding; where it is high, there is resistance."

Private school bills passed by the Georgia legislature permit the governor to close schools not eligible for state funds (i.e. because of mixed classes) and to make state funds available to individuals in such closed schools for purposes of education, and authorize local school boards to lease property for private school purposes.

In Mississippi, Gov. J. P. Coleman stated: "Mississippi will close any white public school or college forced by the courts to accept a Negro student." Bills passed by the legislature included the abolition of common law marriages, making children born in such marriages illegitimate. The law is expected to bolster the state's use of a 1954 pupil assignment law based

(Continued on Page 156)

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Before your freshmen are seniors, classroom requirements will be critical. You can start to meet this problem now with Hamilton Activity-Centered tables, which permit science rooms to be used every period of every day, for laboratory, academic or home room activities.

These new Hamilton units offer so many advantages—

largest available work surface...up to 40 locked drawers...unique, tapered "traffic-flow" design...low-cost roughing-in option...Northern Hard Maple construction in 6 distinctive finishes...90 different work-and-storage combinations! There's a lot more we'd like you to know about Hamilton Activity-Centered science tables—please write today.



Hamilton

LABORATORY EQUIPMENT

HAMILTON MANUFACTURING COMPANY TWO RIVERS, WISCONSIN



Architects: Thorshov and Cerney • General Contractor: D'Arcy Leck Construction Company • Flooring Contractor: Chas. H. Anderson Floors, Inc.

Huge H. S. gym floor gets MULTI-CLEAN Gym Finish

The new \$2,700,000 Richfield High School, one of the largest in the Midwest, is said to have the largest high school gymnasium in Minnesota.

This mammoth 14,500 sq. ft. gym floor is of northern hard maple "Ironbound Continuous Strip" set in mastic over 1/2" Chafco Cork Board. Wood floors were also laid on the auditorium stage and in the school's wood working shop. B-and-better vertical grain fir was used for the stage while "Ironbound Continuous Strip" was applied in the wood working shop. Chas. H. Anderson Floors, Inc., furnished, installed, sanded and finished all of these wood floors.

One coat of MULTI-CLEAN Penetrating Seal and two coats of MULTI-CLEAN Gym Finish were used on the gym floor. The auditorium stage and wood working shop received three coats of MULTI-CLEAN Penetrating Seal.

John Ladd, vice-president and Minneapolis branch manager of Anderson Floors, gives these reasons for specifying MULTI-CLEAN finishes:

First, they protect and enhance natural floor beauty, thus eliminating the need for periodic resanding to restore the floor's original color.

Second, they have outstanding wearing qualities and an anti-slip surface that is both attractive and easy to keep clean.

Third, they give excellent coverage, yet are not premium priced products.

Fourth, experienced MULTI-CLEAN Distributors are always near at hand, well-stocked, and trained in the MULTI-CLEAN METHOD of scientific floor care. They give prompt, courteous help when it's needed.

There's a MULTI-CLEAN Finish for every type of floor. Your local MULTI-CLEAN Distributor will be glad to advise you and help you with any of your floor problems.



Scrubbing Machines

Wet-Dry Vacuums

Floor Finishes & Cleaners

Floor Machines

MULTI-CLEAN
Method

The combination of the right Multi-Clean Equipment and Materials with the correct procedure.

MULTI-CLEAN Products, Inc., Dept. NS-13-56
2277 Ford Parkway, St. Paul 1, Minnesota

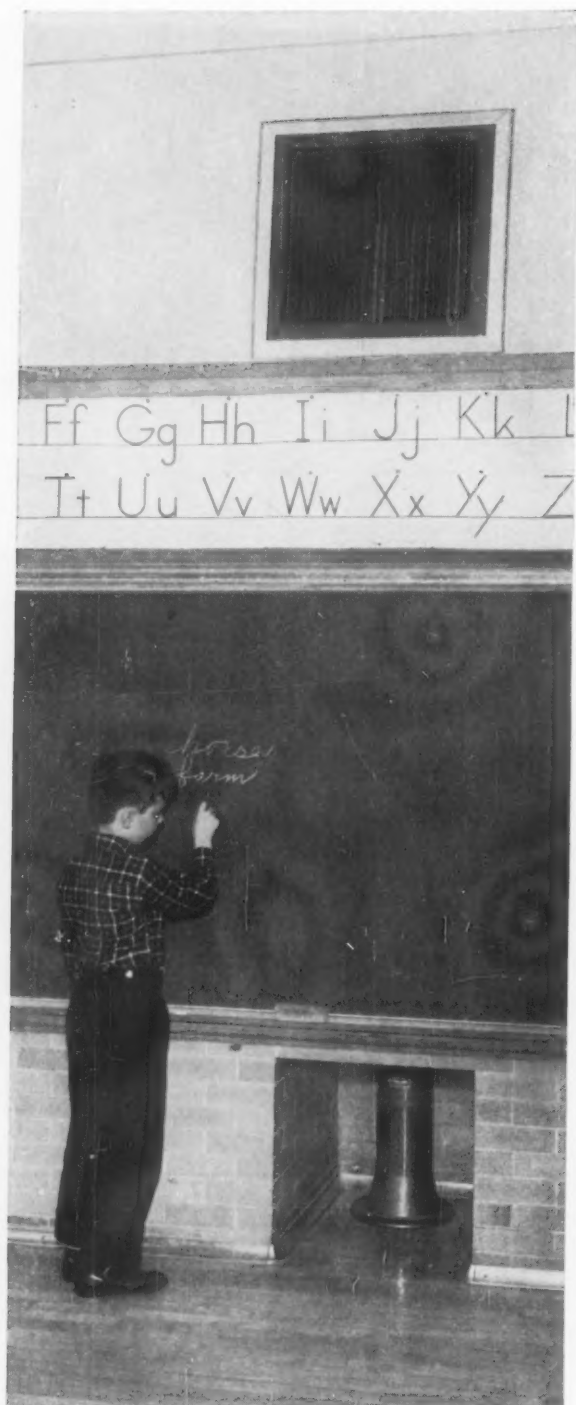
Tell me more about the MULTI-CLEAN METHOD of floor care and how it will save me time and money on ☐ Concrete, ☐ Asphalt Tile, ☐ Terrazzo, ☐ Wood, or ☐ I'd also like information on ☐ Floor Machines, ☐ Scrubbing Machines, ☐ Industrial Vacuum Cleaners.

Name _____ Title _____

Address _____

City _____ Zone _____ State _____

How new heating and ventilating system



Dunham VARI-AIR Unit, concealed in mixing flue behind blackboard, mixes fresh and recirculated air—silently diffuses it to classroom through overhead grille.

Dunham VARI-AIR
designed to help the
“hard pressed” budget . . .
and save valuable
floor space

SCHOOL construction costs can't go anywhere but down when Dunham VARI-AIR heats and ventilates classrooms. This new and simple system satisfies all health and comfort standards . . . does it at a cost that meets with the full approval of any school board member.

In addition to healthful and silent heating and ventilating, VARI-AIR puts school air conditioning within easy financial reach of school construction budgets . . . should it be desired. This optional use of VARI-AIR can be economically provided for at the time the system is installed.

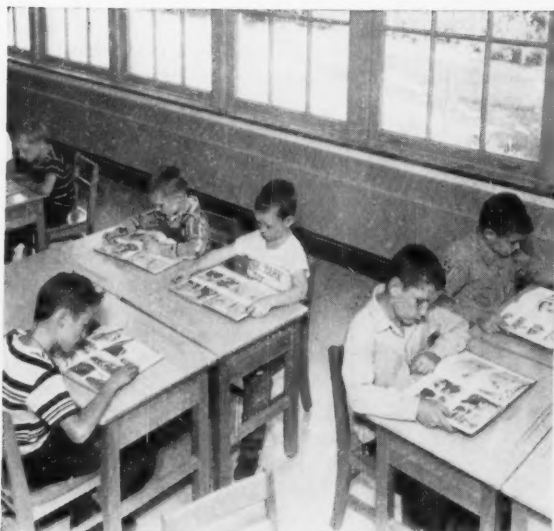
Offers Numerous Advantages

Lower Costs: Dunham VARI-AIR eliminates need for in-the-room cabinet ventilators . . . provides greater savings in classroom heating construction costs. Total absence of complex controls saves both first and maintenance costs.

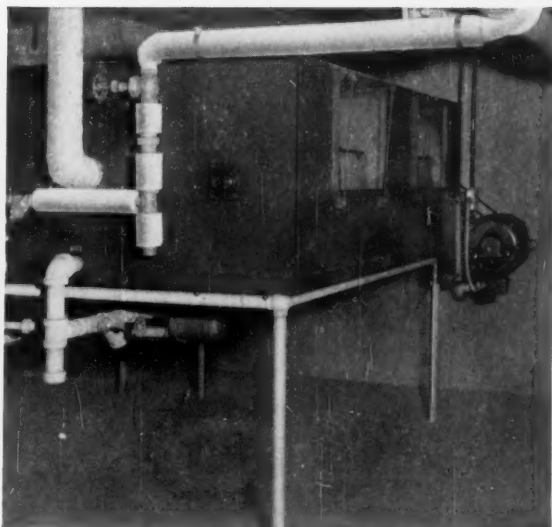
Minimum Temperature Variations: Dunham's centralized temperature control system holds room temperatures within prescribed limits by automatically compensating for weather change and heat loss.

Space Saver: No floor space in classroom is given over to either heating or ventilating with a Dunham VARI-AIR system.

cuts schoolroom construction costs



Dunham Finned-Pipe Radiation runs along outside walls, under windows to eliminate chilling downdrafts, save premium classroom floor space.



Dunham Heating and Ventilating Unit pulls in outside fresh air and tempers, filters and discharges it through a tunnel or ceiling plenum to VARI-AIR Units.

How VARI-AIR Operates

Only three primary parts to the system. VARI-AIR Units are concealed in wall space, mix fresh and recirculated air and diffuse it into classrooms.

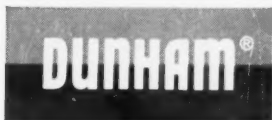
Heating and Ventilating Unit—generally one to the entire system—pulls in fresh outside air, tempers, filters and discharges it through a tunnel or ceiling plenum to the VARI-AIR Unit.

Radiation — Dunham THERMO VECTOR® "along-the-wall" radiation saves floor space and provides all necessary heat whether used with steam or hot water.

For complete information, contact any Dunham Representative or mail the coupon.



Dunham VARI-VAC® Temperature Controls provide centralized, one-man operating station for all system settings and remote control readings. This electronic "brain" enables system to save up to 40% on fuel.



HEATING & COOLING EQUIPMENT

RADIATION • CONTROLS • UNIT HEATERS • PUMPS • SPECIALTIES

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Dept. NS-5, 400 W. Madison Street
Chicago 6, Illinois
Please send VARI-AIR literature.

Name _____

Company _____

Address _____

City _____ Zone _____ State _____

NEWS

(Continued From Page 152)
on morals, health and welfare of the community. The compulsory school attendance law also was abolished.

A "freedom of choice" amendment to the *Alabama* state constitution was approved by the house and will be submitted to public vote in August. The amendment would provide for three separate school systems, Negro, white and mixed, and would also allow the abolition of the public school system if necessary to preserve peace and

order. Gov. J. E. Folsom allowed a nullification resolution adopted by the legislature to become law without his signature. At a special conference of educators and publishers Governor Folsom proposed a plan to create a bi-racial commission to help settle disputes growing out of the integration controversy.

The *South Carolina* legislature has unanimously adopted a resolution of protest which calls upon the states and Congress to prevent further en-

croachment upon the reserved powers of the states. "In the meantime," the resolution states, South Carolina "will exercise the powers reserved to it under the Constitution to judge for itself of the infractions and to take such other measures as it may deem appropriate to protect its sovereignty and the rights of its people."

By unanimous decision, a state constitutional convention in *Virginia* has approved an amendment to permit tuition grants from public funds to avoid compulsory school integration.

North Carolina's governor, Luther H. Hodges, in announcing his bid for reelection, stated that voluntary segregation is still working in that state, but that if it fails, he will propose tuition grants "along the lines of the *Virginia* proposal." "Our chief concern," he said, "is the preservation of our public schools for our children."

Segregation has become a major issue in *Florida's* May primary election for governor, despite Gov. LeRoy Collins' statement that "Florida cannot afford an orgy of race conflict and discord." All the gubernatorial candidates have announced their support of continuing segregation, and one, Sumter L. Lowery, is basing his entire campaign on the issue.

Further north, *Wilmington, Del.*, announced that it will completely desegregate its schools in September. *Wilmington* is the largest school district in the state. All *Delaware* school districts have been asked to file with the state board of education their plans for integration or the reasons why they cannot integrate at this time. The state board of education has deferred action on a request from the *Delaware* counsel for the N.A.A.C.P. to demand immediate integration in eight school districts.

Desegregation developments in *Tennessee* were characterized by moderation. In *Nashville*, both city and county boards of education are considering plans for gradual integration. In *Memphis*, the *Commercial Appeal* called for the formation of an organization of "moderates" which would be "an effective barrier between the majority who want to live in a progressive and peaceful city and any small minority who might seek to impose radicalism of any sort on the rest of us." Gov. Frank G. Clements declined to comment on interposition but indicated that he would follow the advice of

ONLY BEAUTIFUL BOONTONWARE BRINGS YOU

Every Institutional Advantage with no Institutional Look



The outstanding virtues that put Boontonware into millions of homes have made it ideal for serving large groups.

- Boontonware's smart styling and color make food look appetizing—no heavy, ugly "institutional" pieces, no dull, crazed surfaces.
- Boontonware is practically indestructible—no broken or chipped dinnerware on your shelves.
- Boontonware stacks evenly, handles easily and quietly—no deafening handling clatter, untidy shelves.
- To Sum It Up: Boontonware does all the things good dinnerware should do and in addition . . . it practically pays for itself.

There is a complete line waiting for you—plates, bowls, cups and service dishes. See your regular supply house or write us for the name of your nearest dealer.

Colors:

Buff
Blue
Yellow
Green
Gray
Turquoise
Charcoal
Rose
Pink

Boontonware®
MELMAC DINNERWARE AT ITS FINEST—



Boontonware complies with CS 173-50, the heavy-duty melamine dinnerware specification as developed by the trade and issued by U.S. Department of Commerce, and conforms with the simplified practice recommendations of the American Hospital Association.

MANUFACTURED BY BOONTON MOLDING CO., BOONTON, NEW JERSEY

Your girls can win big-money prizes in The 1956 **SINGER** Junior Dressmaking CONTEST!



Your girls can make prize-winning dresses while learning to sew—in SINGER's 4th annual Junior Dressmaking Contest.

All they have to do is enroll in a SINGER Teenage Dressmaking Course at any SINGER SEWING CENTER. Eight 2½-hour lessons cost just \$8!

One set of prizes will be awarded to Senior Contest winners (girls 14-17); another set to Junior Contest winners (girls 10-13). Over 3500 prizes in all will be awarded!

Girls may enroll between May 14 and August 11 . . . dresses must be completed by Sept. 1. Classes fill fast, so post this announcement *today!*



\$85,000 WORTH OF PRIZES

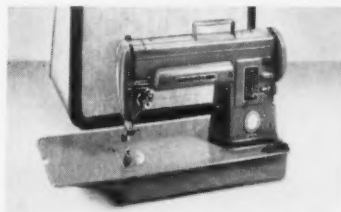
SENIOR CONTEST PRIZES (girls 14-17)

GRAND PRIZE \$1000 2nd PRIZE \$750 3rd PRIZE \$600 4th PRIZE \$500	} cash award or scholarship fund
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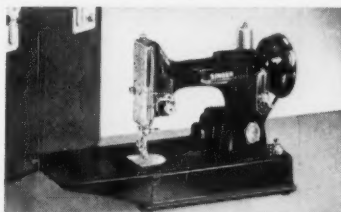
JUNIOR CONTEST PRIZES (girls 10-13)

GRAND PRIZE \$500 2nd PRIZE \$400 3rd PRIZE \$300 4th PRIZE \$250	} cash award or scholarship fund
--	-------------------------------------

PLUS a 3-day trip to New York City for the 4 top winners in each contest and their mothers!



66 SINGER® Slant-Needle® Portables with Automatic Zigzagger. First prize for Senior & Junior regional winners.



66 SINGER FEATHERWEIGHT® Portables with Automatic Zigzagger. Second prize for Senior and Junior regional winners.



Over 3500 de luxe SINGER® Scissors Sets for local winners in both Senior and Junior Divisions.

PLUS 33 \$300 one-year scholarships for regional winners in Senior Division who enter or are attending accredited colleges and major in home economics!

NOTE: Immediate families of employees of SINGER organization and its advertising agencies not eligible for contest.



Get complete rules and entry blanks at all
SINGER SEWING CENTERS

in the United States and Canada
SINGER SEWING MACHINE COMPANY

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Quality Communications Systems
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Gentlemen: Please send Select-O-Kit telling about Kellogg
specialized interior communications systems.

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Get direct, quiet, private communications with your own system

You save money, you get exactly what you need, when you buy a Kellogg specialized interior communications system. For instance, you can have a simple push-button system or one that will provide unlimited simultaneous service to any spot in your school. If needed, a system can be installed that will enable you to set up faculty telephone conferences in seconds.

Several standard systems are available. One of these will fit your needs. See your dealer or send coupon for your Select-O-Kit today.

NEWS

Atty. Gen. George F. McCanless, who described the concept as "an empty word" with no legal status. However, a survey by the *Commercial Appeal* showed a growing interest in interposition in western Tennessee, where the state's largest concentration of Negroes is found.

Two regulations, making the maintenance of segregated schools difficult, have been passed by the *Oklahoma State Board of Education*. In January, the board approved a new rule combining legal average attendance of white and Negro children to determine the number of teachers for which state aid will be paid. New rules were more recently adopted on the payment of state aid for transporting pupils. Abolishing the old system of double transportation, which permitted students to be taken outside their districts to segregated schools, the new rule allows state aid for transportation only within the district. Districts wishing to continue segregated schools will have to foot the bill themselves, and it was predicted that few would be able to afford it.

School Systems, Harvard Sponsor Summer Session

CAMBRIDGE, MASS.—Five hundred Massachusetts school children are currently being selected to attend an unusual six-week summer school in this area. Pupils will represent a cross section of six Greater Boston school systems that are co-sponsoring the program in cooperation with the Harvard Graduate School of Education.

Classes will be taught by 30 master teachers, selected from colleges and schools in the East and Midwest. R. W. Blaisdell, principal of the school, explained that enrichment would be the emphasis of the program. New approaches to such subjects as mathematics and English will help to build every pupil's basic skills, he said. Art, music, dance and shop will be included in the curriculum, along with basic subjects.

The school, which includes Grades 3 through 10, will offer training opportunity for some 100 teacher trainees, who will work under the master teachers. Trainees will be liberal arts graduates, many of whom will teach in the area next year under the Harvard "internship" program of teacher training.



Model S-163, 17,000 lbs. GVW. Capacity—up to 54 pupils



Model S-1703, 19,000 lbs. GVW. Capacity—up to 54 pupils



Model S-183, 21,000 lbs. GVW. Capacity—up to 66 pupils

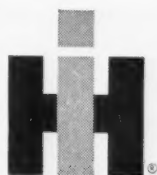


Model R-1853, 21,000 lbs. GVW. Capacity—up to 66 pupils

6 Schoolmaster chassis—2 Metro® buses—16 to 66 passengers

*All-Truck Built to
save you the **BIG** money!*

**INTERNATIONAL®
TRUCKS**



Motor Trucks • Crawler Tractors • Industrial Power
McCormick® Farm Equipment and Farmall® Tractors

The “EXTRA” is standard on SCHOOLMASTERS

INTERNATIONAL, with its reputation for quality trucks, makes doubly sure every Schoolmaster® chassis has extra safety, comfort, durability and economy—in excess of established standards in most instances. And these cost no more.

With extra margins of strength and protection throughout—in frames, axles, springs, driveline—you get safer, trouble-free transportation that can mean sizeable savings.

From **INTERNATIONAL**, you can get the model *exactly* suited to your needs . . . the right size with every component all-truck built to save you the **BIG** money—the over-the-years operating and maintenance money.

Any **INTERNATIONAL** Dealer or Branch will gladly give you complete information on transporting 16 or 66 pupils. Why not give him a call, or send the coupon below for new, free catalog.

INTERNATIONAL HARVESTER COMPANY • CHICAGO

INTERNATIONAL HARVESTER COMPANY
P. O. Box 7333, Chicago 80, Illinois

Please send me your new catalog on the **INTERNATIONAL** Schoolmaster Chassis.

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School _____

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LOW BRIGHTNESS—LONG LIFE

1. Cold Cathode is designed to outlast all other lamps 5 to 1.
2. Low-brightness lamp eliminates louvers.
3. Eliminates vacuum-cleaner cleaning of fixtures.
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SEND FOR FREE COPY OF OUR BOOKLET

FACTS ABOUT COLD CATHODE FOR SCHOOL LIGHTING

ILLUMINATING ENGINEERING COMPANY

2347 E. NINE MILE ROAD, HAZEL PARK, MICHIGAN

Buying Bleachers? Better Look Twice at Maintenance Costs

A recent survey shows that upkeep of athletic field seating averages 40c per seat per year. The biggest cost factor is in the labor required to hand scrape and refinish steel members that rust and scale in no time at all.



At PLAYTIME we lick the rust and costly maintenance bugaboo by Galvanizing Bleachers—After Fabrication. This exclusive process means that all steel members of PLAYTIME seating receive a heavy Hot-Dip zinc coating following weldment and sub-assembly. Galvanizing AF stops rust at manufacturing source . . . eliminates for years, costly painting and scraping operations . . . reduces bleacher upkeep to but pennies per seat per year.



If you're seeking bids on athletic field seating, be sure to get full particulars on PLAYTIME'S Galvanized AF Stands. They cost less and last longer!

NEWS

Principals' Problems Theme of University Conference

CHICAGO.—"Problems of Principalship" will be considered at a conference July 9 to 11 at the University of Chicago. Designed particularly for elementary and secondary school principals and key teachers on their staffs, the conference is sponsored jointly by the Midwest Administration Center and the university's department of education.

Participants will study the improvement of faculty morale and effectiveness, organization of schools for effective instruction, and the adjustment of schools to the needs of a changing society.

Among the conference leaders will be: Francis S. Chase, chairman of the department of education and director of the Midwest Administration Center, University of Chicago; Benjamin C. Willis, general superintendent of schools, Chicago; Howard D. Lee, president of the Wisconsin Association of Elementary School Principals; Robert E. Ohm, principal, Laboratory Schools, University of Chicago, and Ralph W. Tyler, director of Center for Advanced Study in the Behavioral Sciences, Stanford, Calif.

State Gains Teachers From Emergency Training Program

HARTFORD, CONN. — Connecticut's emergency teacher training program, now entering its eighth year, has thus far graduated 2500 teachers, it was announced recently.

State Commissioner of Education Finis Engleman described the program as a lifesaver for the Connecticut schools. Under the program, college graduates without previous teacher training can qualify for temporary teaching licenses after completing a special eight weeks' course, offered each summer.

Dr. Engleman reported that the emergency program has yielded almost half as many teachers as has the regular program. Applicants for the summer session have been carefully screened.

The summer courses are given at the teachers colleges in New Britain, Danbury, Willimantic and New Haven and are open to college graduates from any part of the country. Graduates of the eight weeks' session can qualify for permanent certificates by taking further special courses.



Bright and beautiful, and Seal-O-San safe! Bremen High Gym, Leroy Bradley, Fort Wayne, Architect; James I. Barnes, Logansport, Contractor.

New floor, old floor, small school? —

All can have light, beautiful, non-slippery gym floors like Bremen, Ind., High

If you have ever envied the bright, beautiful, non-slippery wood gym floor of your neighboring school or nearby college, take the simple step necessary to assure your school of that same high quality floor. Before refinishing this spring or summer, order Seal-O-San Gym Floor Finish for the job. Seal-O-San will transform nearly any hardwood floor into the most nearly perfect surface for basketball.

Thousands of other coaches, school officials and maintenance men who have had experience with Seal-O-San won't be satisfied with any other floor finish. We are convinced you will feel that way too, once you have had the pleasure of working with a team on a floor that helps you build team confidence. Fast breaks, improved footwork, better team play are all possible on Seal-O-San because the surface is lively, non-slippery, responsive to quick movements.

You will like Seal-O-San and you will find it inexpensive to use. It is simple to apply, easy to maintain and extremely durable. This is the year . . . now is the time to order Seal-O-San Gym Floor Finish if you want to make your gym floor the best floor for basketball.



Fast Action play is the style in Indiana. It's performed smoothly and safely by these high school cagers at Bremen on their new Seal-O-San finished court.

SEAL-O-SAN[®] GYM FLOOR FINISH

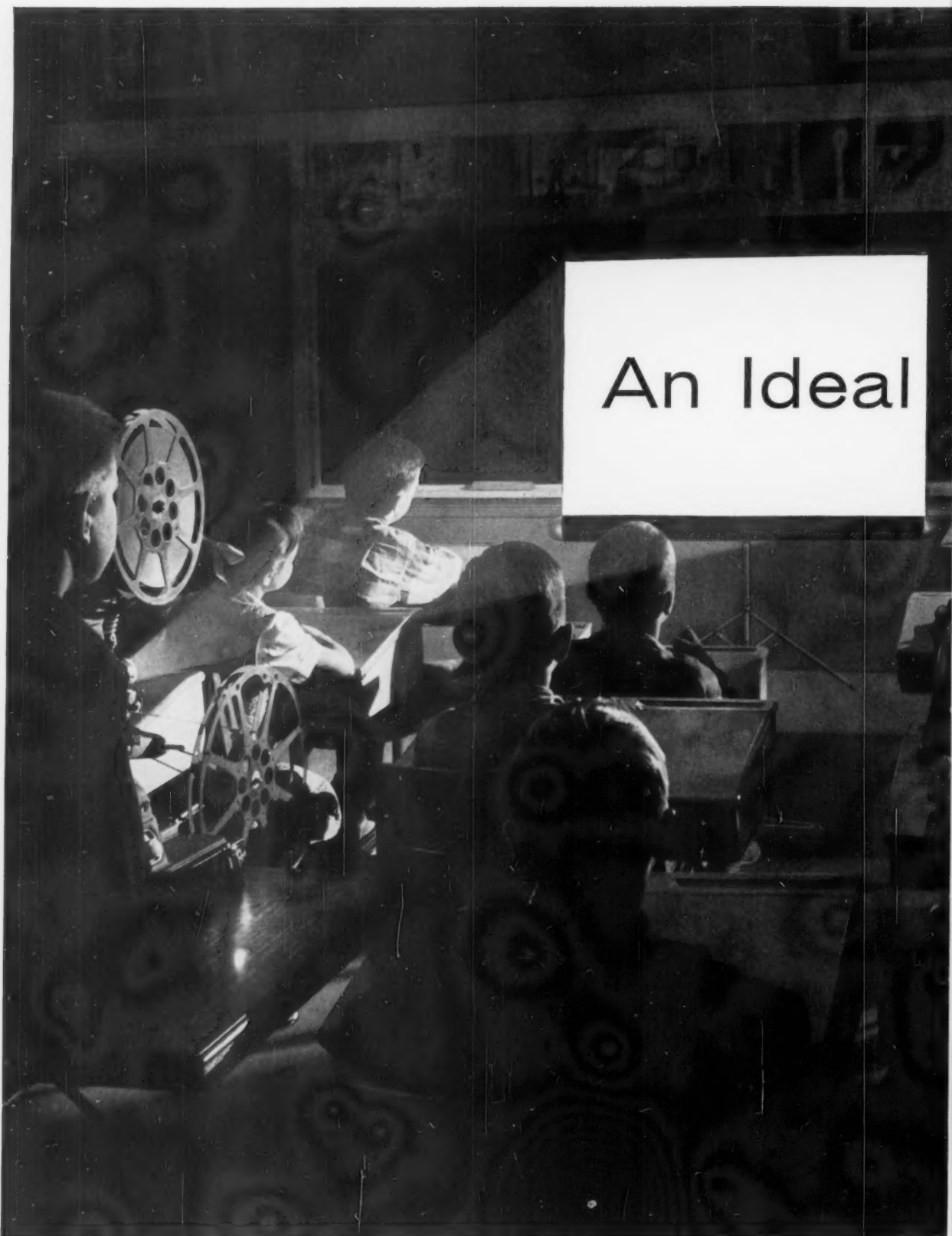
Huntington Laboratories

Huntington Laboratories, Inc.

Philadelphia 35, Pa. • Huntington, Indiana • Toronto 2, Ontario



The new Bremen gymnasium built in 1954 has proved very satisfactory to school officials. They like all the features of Seal-O-San, especially the ease of maintenance.



An Ideal

One example of the need for individual classroom ventilation control is the use of audio visual instruction. Honeywell's Schoolmaster wall thermostat in each room prevents stuffiness that makes students sleepy when blinds are drawn. This results in increased alertness and receptiveness.

New thermostat, The Honeywell Round. One in each classroom makes it possible to adjust temperature to meet varied activities of children.



Climate for learning

Amount of "take home learning" increases
with thermostat in every room

EFFECTIVE teaching calls for proper temperature and ventilation. In a stuffy classroom students grow sleepy when, for example, blinds are drawn for audio-visual education. How can you control such factors?

The best way is with mechanical ventilation and a thermostat on the wall of each room. Such "climate conditioning" is the idea behind the Honeywell Schoolmaster Temperature Control System. Individual room thermostats allow the teacher to maintain the right conditions for classroom alertness—at all times of the day regardless of instruction methods.

In addition, the Schoolmaster System includes an indicator panel for the principal's office which gives a fingertip report on all room temperatures.

The Schoolmaster is an exclusive Honeywell development, designed for any school—new or old. No

major building alterations are necessary, as the wiring is simple.

For complete information, call your local Honeywell office, or write to Honeywell, Dept. NS-5-07, Minneapolis 8, Minnesota.

The Schoolmaster System: A special wall thermostat for each room and Principal's Monitor Panel

Indicator panel gives the principal a fingertip report. It is wired to a special sensing element in each room thermostat to provide the principal with a push-button temperature reading for any room in the school. It functions also as an auxiliary fire detection system.



MINNEAPOLIS
Honeywell

School Temperature Controls



112 OFFICES ACROSS THE NATION

NEWS BRIEFS

More Graduate Drivers. Certificates of driver education were given to 1606 students in Delaware during 1954-55, a 65 per cent increase over 1950-51.

In the Right Direction. Faculty members at Columbia University will receive salary increases of 10 per cent "across the board" and also, in many cases, "appropriate adjustments for merit" July 1. The action was made possible by the Ford grant and an increase in tuition fees.

Accomplished Woman. Martha McMahon, chosen Indiana Mother of 1956, is currently finishing work for her degree in education by attending night classes at Butler University in Indianapolis. Mrs. McMahon, 54, the mother of seven children, is a third grade teacher in a country school at Noblesville, Ind.

Off K.P. School principals in New York City are relinquishing their duties as restaurant managers of their respec-

tive schools. Under a new plan to centralize the operations of the school lunch program, the principals will no longer be responsible for food buying and personnel in the cafeterias.

Largest Get the Least, If Any. According to Herold C. Hunt, undersecretary of the Department of Health, Education and Welfare, chances are that "very, very little" federal aid would go to schools in America's largest cities (population over 500,000) under the Administration backed aid program.

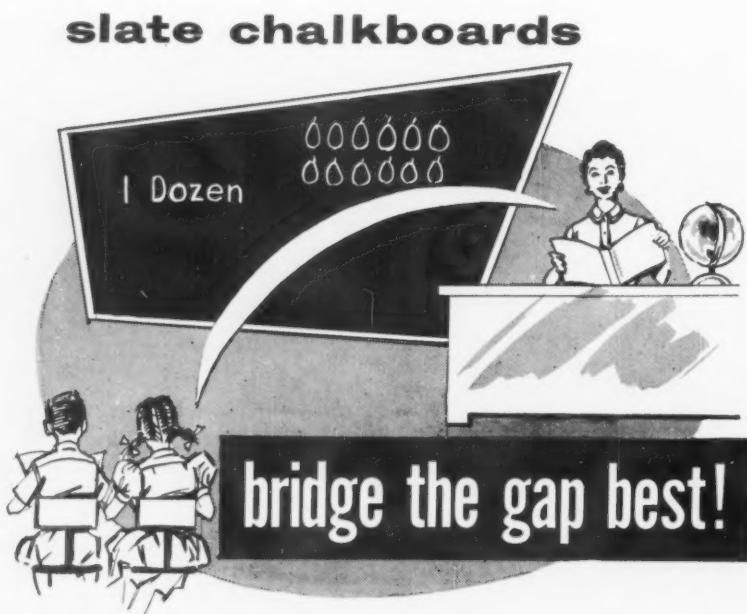
Daughters Speak. Daughters of the American Revolution in Illinois have adopted a resolution condemning federal aid to education as "wasteful" and supporting Governor Stratton's opposition to it. Control of education must remain with the people through their own states, the group said.

To Encourage Growth. Annual report of the Fund for Adult Education showed it had spent more than \$4.45 million during 1955 "to stimulate diverse groups and individuals . . . in spreading and improving opportunities for adults to continue their liberal education."

High Priority. The board of education of the District of Columbia approved a plan to release science teachers from their classes, enabling them to attend the recent National Science Teachers Association convention there. Some 1000 scientists from the Washington area volunteered to substitute for the teachers in junior and senior high school classes, and parents took over in some elementary school classes.

Make Them Curious. Science teachers were warned that children's interest could not be stirred by the "lock-step" methods of rote recitation and textbook study at a recent meeting of the National Council for Elementary Science. Prof. Ned E. Bingham of the University of Florida urged teachers to question children about an expressed interest until they themselves feel a need to investigate to find an answer.

And in Jordan. A 12 week course for the inservice training of science teachers is being carried on under UNESCO auspices. Special stress is placed on the construction of simple apparatus from easily available materials. A new syllabus, used by the group, covers topics such as air and atmosphere, weather, home industries, energy and plant life.



SUPERIOR VISIBILITY MEANS QUICKER . . . EASIER TEACHER-STUDENT COMMUNICATION.

Slate chalkboards command attention. The high degree of contrast between message and background on a slate chalkboard means a clear, easy-to-see, easy-to-grasp message . . . one to which the student instinctively responds. It's an invaluable aid to the teacher in classroom work . . . and an economical one, too . . . a one-time investment in dependability and eye-soothing service.

write for your free 12 page illustrated copy of
"SLATE CHALKBOARDS IN MODERN SCHOOLS"

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- Cost Comparisons
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PENNSYLVANIA SLATE PRODUCERS GUILD INC.

205 REALTY BLDG.

PEN ARGYL, PENNA.

500 Million Years in the Making . . . NATURAL SLATE



The Lifetime Twins

★ **SOLID PLASTIC AND CHROME** ★

Prove Their Aptitude in the Massapequa School System



The new Massapequa High School in Massapequa, Long Island . . . Mr. Mario Cera, President of Board of Education, Dr. R. J. Lockhart, Superintendent, and Mr. A. Rohr, Principal. Installation of Heywood-Wakefield Furniture supervised by the Equipment & Furniture Co., New York. Architects: Knappe & Johnson, New York.

Colorful new HeyWoodite solid plastic and tubular steel chrome furniture was tested in classrooms of the Massapequa Schools where it withstood the equivalent of over two years of normal traffic and wear. With a minimum of maintenance care, it preserved its factory-new look and proved its unique advantages. Over 10,000 HeyWoodite units are

now in service in six new Massapequa Schools. HeyWoodite, an exclusive Heywood-Wakefield development, is a single homogeneous piece of solid plastic formed in a single operation. Its smooth finish is virtually indestructible. With smart, durable chrome-plated tubular steel frames it forms lightweight furniture which will take lifetime use and abuse.



Typical classroom arrangements in the Massapequa School System show Open-Front Table Desks and All Purpose Chairs. Lifting-Lid Table Desks are also available with one-piece HeyWoodite tops.

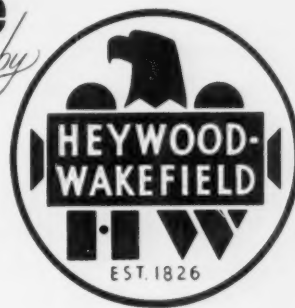


HeyWoodite

SOLID PLASTIC by

For complete details see your nearby Heywood-Wakefield distributor or write direct: Heywood-Wakefield Co. School Furniture Division, Menominee, Michigan or Gardner, Massachusetts.

◀ *The auditorium is seated with 1030 Heywood TC 700 "Encore" chairs upholstered in soft beige and blue mohair.*



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... Florida Contractor Reports on Job Using

GARCY *Speed-Line*® System

PATENT PENDING

Here is the contractor's report on an installation of lighting fixtures in a number of Florida schools: "A study of labor costs shows a saving in excess of 50% compared with previous expense." Money saved on installation more than paid the difference in cost between standard lighting and the finest commercial fixture available, the Garcy VISUALIER.

THIS IS
Speed-Line



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PRE-WIRED AT FLOOR LEVEL

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mounting channel needed.



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AS A SINGLE UNIT

No straining at top of ladders.
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NEWS BRIEFS

For Extension. The National Conference on Higher Education has recommended that Congress extend the educational benefits of the Korean G.I. bill of rights to all veterans who honorably complete their active military service. Benefits are now restricted to those in service before January 1955.

Productive Development. Completion of the \$288 million Fort Dearborn civic redevelopment project in Chicago will mean several more million dollars a year for Chicago city schools. Tax yield of the project area, on the basis of higher tax valuation, will increase \$4 million to \$6 million, 40 per cent of which will go to the schools.

And in Prison. Teen-age inmates of Cook County jail, Chicago, will study in five new classrooms, built recently at a cost of \$20,000. The classrooms, the first to be provided in the history of the jail, will accommodate 100 pupils; grade school and high school subjects are taught by nine teachers assigned by the board of education.

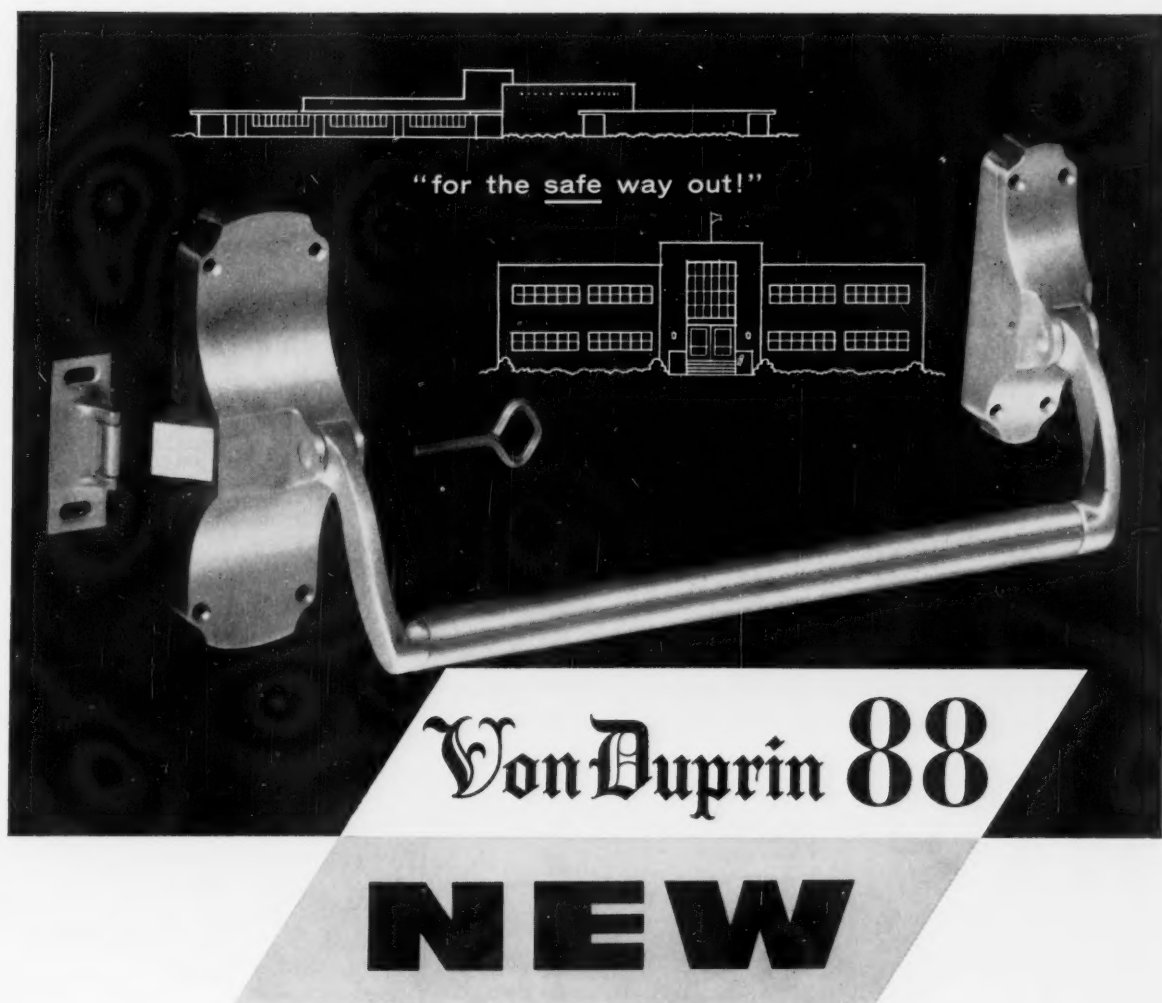
Education, Too. "The Family Learns" will be one section of a new exposition, sponsored by the *Cleveland Press*, designed to appeal to the interests of today's family. The exposition, the Family Fair, to be held October 21 to 28, will present products, equipment, crafts and services which can enrich family life.

The Upward Trail. The board of education in Tucson, Ariz., has announced a new salary schedule, upping the minimum for teachers with bachelor's degrees from \$3600 to \$4000. Maximum for teachers holding master's degrees will jump from \$6100 to \$6800.

Sad, But True. Beginning teachers graduated from Ohio State University last year had a theoretical choice of 32 different job opportunities. The number of graduates certified for and interested in teaching immediately was 276; requests for elementary and secondary school teachers numbered 8071.

Progress. Discussing the additional responsibilities for health and transportation carried by today's schools, Helen C. Bailey, associate superintendent, Philadelphia, commented recently, "Mothers are firm about it; their children must ride in heated comfort to school to learn how Lincoln became a great man by walking miles through the snow to borrow a geometry book."

The NATION'S SCHOOLS



Quality exit devices for budget-minded remodeling or replacement!

● There *never* has been justification for sacrificing safety standards to meet budget requirements.

There *always* has been a need for a low-cost exit device to satisfy both economy and sure service.

The answer: Von Duprin's new 88 device!

It's made for tough service! Drop-forged lever arms and latch bolt assembly; pressure cast cases and strike! Available in bronze or aluminum.

It's reversible—works on doors of either hand! For single doors, or double doors with mullion.

It's designed for versatility! Locking functions easily converted for any future needs; universal cam takes any standard rim cylinder.

The Von Duprin 88 has been enthusiastically endorsed by experienced hardware distributors. Better contact your dealer soon . . . ask him about the scores of quality features that make the 88 a terrific value!



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ABOUT PEOPLE

APPOINTED . . .

Sidney P. Marland, superintendent at Darien, Conn., to superintendent at Winnetka, Ill., effective August 1. Dr. Marland holds a Ph.D. from New York University and has been a member of the visiting faculty there since 1952. Before going to Darien in 1948, Dr. Marland was director of research, Pacific Military Intelligence, War Department,



Gilbert S. Willey



Sidney P. Marland

Washington, D.C. He succeeds **Gilbert S. Willey**, superintendent since 1950, who has resigned. During his 30 years in education, Dr. Willey has held school administrative positions in Trinidad,

Denver and Pueblo, Colo., and Lincoln, Neb. From 1930 to 1939 he was director of teacher training at the University of Denver.

Leroy Hood, high school principal at Ottawa, Kan., to superintendent at Garden City, Kan., succeeding **J. R. Jones**, who has resigned.

Leo E. Anschutz, high school teacher at Bunker Hill, Kan., to superintendent at Luray, Kan., succeeding **Ernest A. Hoopes**, who has resigned.

Cecil H. Myers, high school principal at Corinth, Miss., to superintendent of the municipal separate school district there. He succeeds **Hal Anderson**, who is retiring after 26 years as superintendent.

Richard Prentice, superintendent at Harper, Kan., to superintendent at Marquette, Kan.

Vandel C. Johnson, principal at Canton, S.D., to superintendent at Flaudreau, S.D. He succeeds **Neal Tracy**, who has resigned.

Cedric Baker, assistant professor of education, University of Arkansas, to superintendent of schools at Cassville, Mo.

Robert W. Lambuth Jr., superintendent at Summit, Miss., to superintendent at Magnolia, Miss.

Harry J. Eastman, superintendent at Vinton, Iowa, to superintendent at Charles City, Iowa, succeeding the late **P. C. Lapham**.

William E. Stirton, vice president in charge of university services and development, Wayne University, Detroit, to vice president of the University of Michigan. Initially, Dr. Stirton will serve as liaison between the university and the state government and industrial and professional organizations.

Gale Jensen, professor of education and director of the institute of education, Grinnell College, Grinnell, Iowa, to associate professor of education in the school of education and program director in community adult education in the extension service at the University of Michigan.

H. Thurston Hatch, superintendent at Chico, Calif., to the faculty of Chico State College there.

Walter J. Robertson, superintendent at Las Vegas, N.M., for the last 15 years, has been given a new five-year contract there.

Donald Hair, assistant professor of education, South Dakota State College,

IN STEP with advanced school design...

HAWS Deck-Type Drinking Fountains meet the demands of your school building program for improved water facilities inside the classroom! Your choice of optional combinations of **HAWS** Faucets and Fixtures make these fountains adaptable to all modern classroom needs. Teachers and students alike, benefit from **HAWS**!



Series 2400
Model 2444



Series 2000
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Series 2300
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FEATURES

Shielded, angle-stream, anti-squirt fountain head.

Vandal-proof socket flanges and lugs.



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Specify the latest... **HAWS DECK-TYPE DRINKING FOUNTAINS!**

Write today... for the New **HAWS** Catalog!

In addition to the complete line of fountains, **HAWS** also features electric water coolers and emergency eye-wash fountains... and, **KRAMER FLUSH VALVES**, for all plumbing fixtures that require an automatic closing valve.

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\$560
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\$560
on this
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**plus \$560 on each of 13 more
HAWARDEN school rooms**

THE sloped roof design of the new sixteen-room Hawarden, Iowa elementary school building would have required a false ceiling if standard suspended-type luminaires were installed on an accoustical ceiling. However, by installing the Curtis Light & Sound Conditioning System on various length hangers, architects Harold Spitznagel & Associates of Sioux Falls, South Dakota, not only provided the school with excellent low-brightness lighting and efficient accoustical treatment without extra construction work and expense, but they gave each room a level-ceiling look, and saved 62c per square foot too! For complete details on the Curtis Light and Sound Conditioning Systems in new or existing classrooms, write Department E23-LS.

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It's easy to see why so many schools are glazing all windows in vulnerable spots with L·O·F *Tuf-flex** tempered plate glass. *Tuf-flex* is 3 to 5 times stronger than regular plate glass of the same thickness!

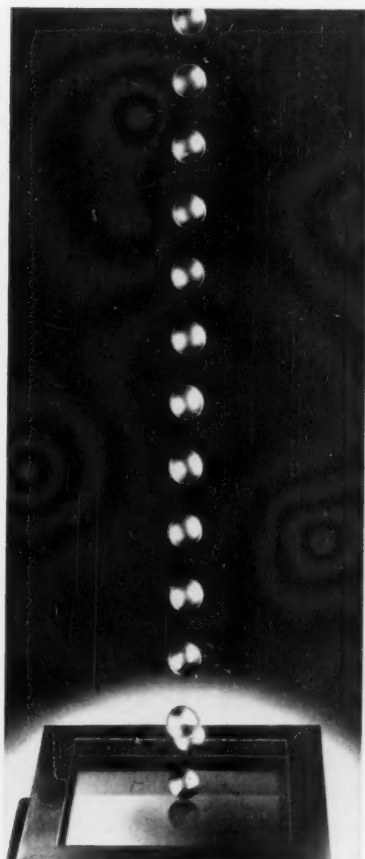
We hope the column at the right will answer any questions you have. If you'd like more facts, just write to the address at the bottom of the column. You can order *Tuf-flex* from your local Libbey-Owens-Ford Glass Distributor or Dealer (listed under "Glass" in the yellow pages). *®



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MAKE SURE that your architect orders the exact sizes of *Tuf-flex* needed. It cannot be cut to make it fit!

For further information, write to Dept. 8956, Libbey-Owens-Ford Glass Company, 608 Madison Avenue, Toledo 3, Ohio.

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ABOUT PEOPLE

Brookings, S.D., to superintendent at Igloo, S.D.

Joseph Hanzal, principal at Gresham, Neb., to superintendent there.

Lloyd H. Iler, superintendent at Rockford, Ohio, to superintendent for Madison South Local District, Madison County, Ohio.

W. Keith Kelley, principal of Chillico Indian School, Chillico, Okla., to superintendent of the school. He succeeds Lawrence E. Correll, superintendent there since 1926, who has retired.

Allan Tomlinson, superintendent at Penns Grove, N.J., to superintendent for Warren County, Belvidere, N.J., succeeding the late Will G. Atwood, who was erroneously reported in these columns to have been superintendent of Warren County, Pennsylvania.

C. M. Robinson, superintendent for Newton County, Neosho, Mo., to the newly created position of director of elementary education in Neosho city schools.

T. A. Parry, superintendent at Havana, Kan., to superintendent at Gardner, Kan.

Richard P. Gousha, superintendent at Woodville, Ohio, to superintendent at Amherst, Ohio.

Alva A. DaVault, superintendent at Hornersville, Mo., to superintendent at Campbell, Mo. Mr. DaVault will succeed R. E. Nichols, retiring in June.

Dale Mills, high school principal at Shelton, Neb., to superintendent there, succeeding W. L. Whiting, resigned.

Ernest W. Campbell, assistant superintendent at Seattle, to superintendent there in June, succeeding Samuel E. Fleming, whose retirement was previously announced in these columns.

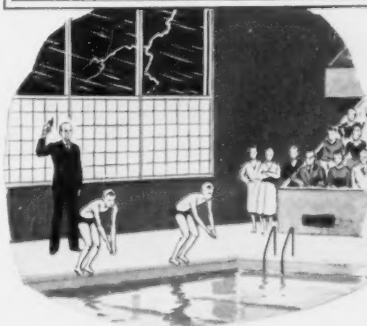
William W. Savage, associate director of the Midwest Administration Center at the University of Chicago, to dean of the school of education of the University of South Carolina. He succeeds Chester Travelstead, who is now dean of the school of education at the University of New Mexico.

George W. Denmark, executive secretary of the Association for Supervision and Curriculum Development, to professor of education and assistant dean of the college of education at the University of Maryland, September 1.

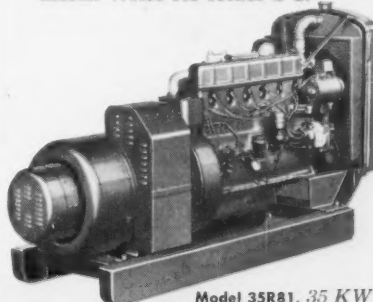
John Cramer, high school principal at Middleton, Idaho, to superintendent there. Mr. Cramer succeeds Tom Tuttle, who has been appointed superintendent at Caldwell, Idaho.

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stand-by electricity



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MORE LOCKERS
into every
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REPUBLIC'S STEEL BOOK SHELF UNITS, made by the Berger Division, are sturdy, attractive, widely used in school libraries. Above pictures show shelving before and after books are in place. Shelves are easily moved to suit current requirements. Berger's shelving experts will be glad to help you plan. Send coupon for facts.



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ABOUT PEOPLE

Charles H. Boehm, superintendent, Bucks County, Doylestown, Pa., to state superintendent of instruction, Harrisburg, Pa. He succeeds **Ralph Swan**, who has been acting state superintendent since the retirement of **Francis B. Haas** last year. Dr. Boehm is chairman of the Pennsylvania Cooperative Project for County Superintendents



Charles H. Boehm

and a member of the A.A.S.A. Commission on School District Reorganization.

James A. Sensenbaugh, assistant superintendent of Baltimore County, Baltimore, to superintendent of Frederick County, Frederick, Md., succeeding **Eugene W. Pruitt**.

Quentin West, high school teacher at Jasper, Mo., to superintendent there.

W. W. Musick, former superintendent at Gridley, Kan., to superintendent at Lucas, Kan.

Frank M. Hughes, superintendent, Cook County, Adel, Ga., to executive secretary of the Georgia Education Association, succeeding **J. Harold Saxon**, who has retired after more than 10 years of service. Mr. Hughes has held his present position since 1943, and was president of the Georgia Education Association during 1952-53.



Frank M. Hughes

Don R. Borthwick, superintendent at Edson, Kan., to superintendent at Sylvan Grove, Kan.

Clifford Cassady, principal at Morehead, Ky., to superintendent for Rowan County, Morehead, effective July 1. Mr. Cassady will succeed **Eunice Cecil**, superintendent for the last five years.

Lester C. Ayers, director of guidance for schools in Beverly, Mass., to superintendent there.

M. P. Smith, high school principal at Clarksdale, Miss., to superintendent at Winona, Miss., effective July 1. Mr. Smith will succeed **Robert Taylor**, who will become superintendent at Marks, Miss.

Rex R. Wyrick, high school principal at Warrensburg, Mo., to superintendent there, succeeding **Fred B. House**, who will retire July 1.

George D. Hendrickson, superintendent at Philip, S.D., to state supervisor for teacher placement with the employment security department of South Dakota, at Aberdeen.

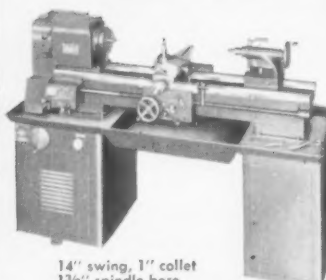
Eleanor Welter, former teacher, to acting superintendent at Gibbonsburg, Ohio, succeeding her late husband, **Albert N. Welter**.

Richard Gahr, high school principal at Norwalk, Calif., to superintendent of the Excelsior Union High School District there, effective July 1, 1957. Mr. Gahr succeeds **Ralph F. Burnight**, who has been appointed superintendent and president of the new Cerritos Junior College District at Norwalk. Mr. Burnight will serve as superintendent of both districts until July 1957. At the same time it was announced that **Henry F. Korsmeier**, assistant superintendent of the Excelsior district, has been appointed vice president in charge of the junior college district, effective July 1, 1956.

Paul V. Fegley, assistant superintendent at Lakeview, Mich., to superin-

Logan

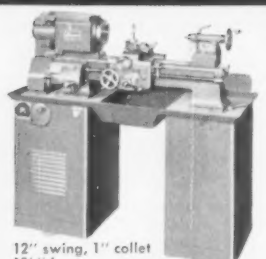
LATHES GIVE THE STUDENT
INDUSTRIAL TOOL EXPERIENCE



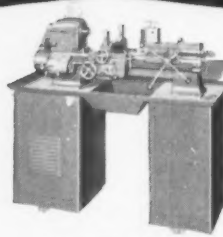
14" swing, 1" collet
1 3/8" spindle bore

The school shop equipped with Logan Lathes gives its students the big advantage of learning on an actual industrial tool. Logan sustained accuracy and versatility permits a broad range of industrial type projects for advanced classes. Logan safe-operation features and rugged construction are of special value with novice groups. No other lathes of comparable specifications match these Logans for economy.

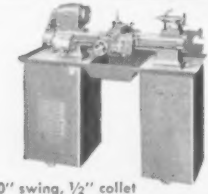
*Screw Cutting and Turret Lathes
In a Wide Range of Sizes
9", 10", 11", 12" and 14" swing, all with Logan advanced design features.*




12" swing, 1" collet
1 3/8" bore



11" swing, 1" collet
1 3/8" bore



10" swing, 1/2" collet
25/32" bore



9" swing, 1/2" collet
25/32" bore

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Washington Elementary School
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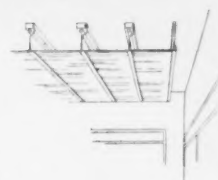
All the advantages of a luminous ceiling with none of its limitations

Into this classroom, which had been drab and inadequately lighted, went a standard pre-packaged Wakefield Photo-Metric measuring 18 x 32 feet. Result: a completely transformed room with a light distribution pattern permitting the child to orient to almost any position in the room and find the quantity and quality of light appropriate for full and free performance. All this plus a moderate noise absorption.

Here you see all the advantages of a luminous ceiling without the limitations and at much less cost. *For the edges of Wakefield Photo-Metrics do not have to contact the side walls*, as is necessary with a luminous ceiling. The distance from the walls can be as much as 33 inches. This means great savings in pre-planning, engineering and installing. It also means that most perimeter obstructions need be no problem, may simply be by-passed.

Wakefield pre-packaged Photo-Metrics are simplicity itself. They consist of fluorescent strip lighting with 40W Rapid Start lamps to which is attached a rigid, free floating grid holding highly diffusing 3' plastic panels of corrugated Wakon vinyl plastic. They are available in five pre-packaged sizes to fit practically all conventional classrooms. (See right.)

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Photo-Metric	To Fit Standard Classroom	Approx. Space at Edge	
		Side	End
18' x 24'	22' x 30' 24' x 30'	21" 33"	33" 33"
18' x 28'	22' x 32' 24' x 32'	21" 33"	21" 21"
18' x 32'	22' x 36' 24' x 36'	21" 33"	21" 21"
24' x 24'	28' x 30' 30' x 30'	21" 33"	33" 33"
24' x 28'	28' x 32'	21"	21"

Noise reduction coefficient of .25

THE WAKEFIELD COMPANY
VERMILION, OHIO

WAKEFIELD LIGHTING LIMITED
LONDON, ONTARIO



ABOUT PEOPLE

tendent there, succeeding **Floyd M. Hazel**, superintendent since 1922, who is retiring.

Robert C. Myers, chief of community mental health services for the New Jersey State Department of Institutions and Agencies, Trenton, N.J., to executive director of a special three-year project on the mentally retarded, with headquarters at the Columbus State School, Columbus, Ohio. The project is under the direction of the American Association on Mental Deficiency, and

is underwritten by the National Institute of Mental Health.

RESIGNED . . .

W. C. Rohleder, superintendent at Grandview Heights, Ohio, for the last 30 years, effective July 31.

E. A. Swenson, superintendent at Lewistown, Minn., since 1947.

Bertha Robinson, superintendent at East Jackson, Mich., effective July 15.

Burnell Johnson, superintendent at Geneseo, Kan., for the last four years.

Floyd M. Hazel,

superintendent of Lakeview School District, Battle Creek, Mich., effective June 30. Mr. Hazel has served 34 years in the Lakeview district.

He is a past president of the Michigan Association of School Administrators, and a member of the advisory council of the A.A.S.A.

C. D. Watts, superintendent at Macks-ville, Kan., effective at the close of the school year.

W. D. Carr, superintendent at Anthony, Kan.

F. H. Anderson, superintendent at Farmington, Iowa, for the last nine years, effective at the close of the school term.

Ben Kietzman, superintendent of Canton Union School District 66, Canton, Ill.

Arthur A. Rather, superintendent at Ionia, Mich., for the last 39 years.

Clem Eyler, superintendent at Bristol, Tenn., for the last 10 years, effective June 19.

L. L. Cunningham, superintendent at Battle Creek, Neb.

Ernest Sampson, superintendent at Kimball, S.D., for the last five years.

W. A. Driscoll, superintendent for Montgomery County, Dayton, Ohio, for the last 23 years.

Carl M. Bair, superintendent for Ocean County, Toms River, N.J., after 12 years of service.

Ray G. Baker, superintendent at Denton, Mont., effective July 1.

W. H. Griffith, superintendent at Seneca, Kan.

Walter E. Brooks, superintendent at Greenland, Ark., for the last nine years, effective June 30.

Kankakee Anderson, superintendent for Polk County, Cedartown, Ga., for the last 15 years.

George W. Weir, superintendent at Kingsville, Tex., effective July 1.

W. C. Blankenship, superintendent at Big Spring, Tex., since 1928, effective June 30.

Raymond O. Cox, superintendent at Protection, Kan.

H. S. Lippert, superintendent at Walton, Kan.

Leslie J. Gustafson, superintendent at Owatonna, Minn., for the last 12 years, effective July 1.



Floyd M. Hazel



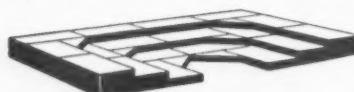
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CHESTRAS allow unobstructed vision of
musicians, director and audience. Improve
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Same units set-up in a straight line can be
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For speakers, raised speakers tables, cere-
monies, acts, style shows. Quick set-up or
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USE THE SAME UNITS FOR
MANY DIFFERENT ARRANGEMENTS

No other tables have as
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- ★ GREATER SEATING CAPACITY
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- ★ UNEQUALED APPEARANCE,
DURABILITY, STRENGTH
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The Strongest,
Handiest Folding
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ANY SIZE STAGE IN ANY
ROOM OR HALL, ANYTIME



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FOLDING STANDS

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- ★ Strong, rigid TUBULAR STEEL LEGS

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REVOLUTIONARY NEW Chemical Development!



Churchill's AMAZING Floor Finish and Floor Sealer

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**50%
more resistance
to wear**

**Never changes natural
floor color**

**Highly resistant to
scuffing, rubber marks
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NS-5



ABOUT PEOPLE

Robert H. Kreiger, superintendent at Burlington, Kan.

Granville R. Griffin, superintendent at Vinita, Okla., effective June 30.

J. C. Clark, superintendent at Brandon, Iowa, effective June 1.

C. M. Smith, superintendent at Clearwater, Kan., effective July 1.

Weldon R. Steele, superintendent at Wink, Tex., effective July 1.

Harold Ryder, superintendent for Lucas County, Toledo, Ohio, since 1914. Dr. Ryder is a past president of the National County Superintendents Association and the Ohio County Superintendents Association.

N. D. McCombs, superintendent at Des Moines, Iowa, since 1941, effective June 30.

DIED . . .

J. J. Halverson, superintendent at Albert Lea, Minn., February 27.

Dr. Frank J. O'Brien, psychiatrist and associate superintendent of schools, New York City, from 1941 until his retirement in September 1955. Dr. O'Brien joined the New York Board of Education as assistant director of the bureau of child guidance in 1931.

John Granrud, superintendent at Springfield, Mass., from 1933 to 1945 and assistant superintendent there from 1927 until his election as superintendent. Following his resignation, Dr. Granrud had served as a divisional director for the National Conference of Christians and Jews.

William F. Russell, president emeritus of Teachers College, Columbia University, and deputy director for technical services of the International Cooperation Administration, March 27, at the age of 65. Dr. Russell joined the faculty of Teachers College in 1923 as professor of education; he served successively as dean and president, retiring in 1954, when he became associated with the Foreign Operations Administration. Before going to Columbia, he served as dean of the college of education at the State University of Iowa. In 1949, Dr. Russell organized an experimental citizenship education project, at the request of President Eisenhower. Texts and materials developed in the study are now used throughout the country. He also served as director of the National Citizenship Education Program of the Department of Justice and as president of the World Organization of the Teaching Profession.

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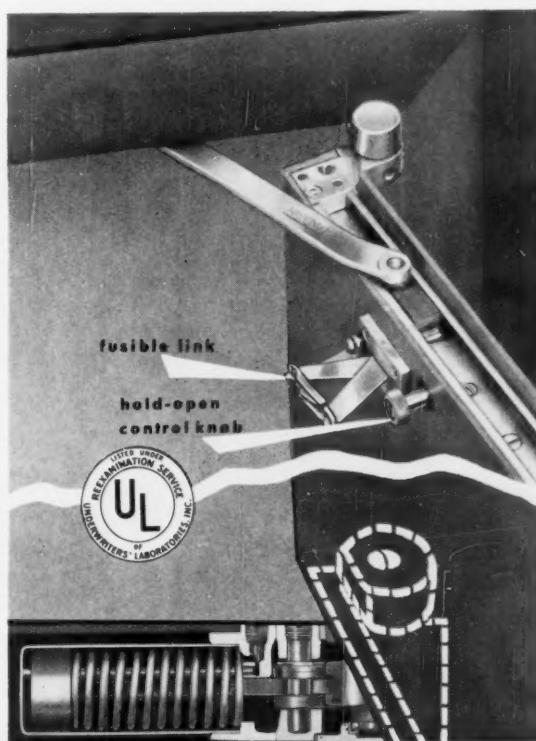
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THE BOOKSHELF

Printed publications of interest to school administrators are listed as received.

ADMINISTRATION

C.P.E.A. in Ohio. Antecedents and Effects of Administrator Behavior. A Study of the Principal at Work With the School Staff. By David H. Jenkins, director, groups dynamics center, teachers college, Temple University, Philadelphia, and Charles A. Blackman, instructor, department of teacher education, Michigan State University. University Press, Ohio State University, Columbus. Pp. 162. \$2.

First-Year Teachers in 1954-55. N.E.A. Research Bulletin Vol. XXXIV, No. 1, February 1956. Research Division, National

Education Association, 1201 16th St., N.W., Washington 6, D.C. Pp. 47. 50 cents.

Procedures for Appraising California Secondary Schools: Administration; Classified Staff; Instructional Staff; Student Form. Four booklets describing a method of evaluating community schools to be carried out by four committees. California Association of Secondary School Administrators, 2220 Bancroft Way, Berkeley.

Textbook Selection. Some Typical Procedures for Selecting Textbooks in California School Districts. Public Relations Advisory Panel, Bulletin No. 1. California

Teachers Association, 693 Sutter St., San Francisco. Pp. 21.

CURRICULUM

Planning the Elementary School Curriculum. By George A. Beauchamp, school of education, Northwestern University. Allyn and Bacon College Division, 70 5th Ave., New York. Pp. 295. \$4.75.

Principles and Procedures of Curriculum Improvement. By Vernon E. Anderson, dean, college of education, University of Maryland. Ronald Press Co., 15 E. 26th St., New York. Pp. 468. \$5.50.

Art: Seven, Eight, Nine, Ten. Curriculum bulletin No. 5, 1954-55 series. New York City Board of Education, 110 Livingston St., Brooklyn. Pp. 184.

Nursing and Child Care for High Schools. Curriculum bulletin No. 8, 1954-55 series. New York City Board of Education, 110 Livingston St., Brooklyn. Pp. 86.

DELINQUENCY

Back to What Woodshed? By Justine Wise Poller, justice of the domestic relations court, New York. Public Affairs Pamphlet No. 232. Public Affairs Pamphlets, 22 E. 38th St., New York. Pp. 28. 25 cents.

LAW

Administration of Public Laws 874 and 815. Fifth annual report of the commissioner of education, June 30, 1955. U.S. Govt. Prtg. Off., Washington 25, D.C. Pp. 122. 65 cents.

NUTRITION

The Effect of Mothers' Diets on the Intelligence of Offspring. A study of the influence of vitamin supplementation of the diets of pregnant and lactating women on the intelligence of their children. By Ruth F. Harrell, Ella Woodyard, and Arthur I. Gates. Bureau of Publications, Teachers College, Columbia University, 2960 Broadway, New York. Pp. 71.

A Good Breakfast for a Good Morning: A Teacher's Manual for Teaching About Breakfast, for Grades 1, 2, 3; Eat a Good Breakfast to Start a Good Day: A Teacher's Manual, for Grades 4, 5, 6. Edited by Laura Otfedal, laboratory schools, University of Chicago. Free nutrition teaching aids for use in health education. Cereal Institute, Inc., 135 S. LaSalle St., Chicago. Pp. 14.

RURAL EDUCATION

Supervision in Rural Schools. By Jane Franseth. Bulletin 1955, No. 11. U.S. Office of Education. U.S. Govt. Prtg. Off., Washington 25, D.C. Pp. 44. 25 cents.

SCHOOLHOUSE PLANNING

Five School Districts: Caldwell, West Caldwell, Caldwell Township, Essex Fells, Roseland. Their Building Need Problems Separately and Together. A report of the division of field services and research, school of education, Rutgers University, State University of New Jersey. New Parker Offset Co., New Brunswick, N.J. Pp. 155.

STATISTICS

1955 Fall Testing Program in Independent Schools and Supplementary Studies. Bulletin No. 67. Educational Records Bureau, 21 Audubon Ave., New York. Pp. 83.

(Continued on Page 182)

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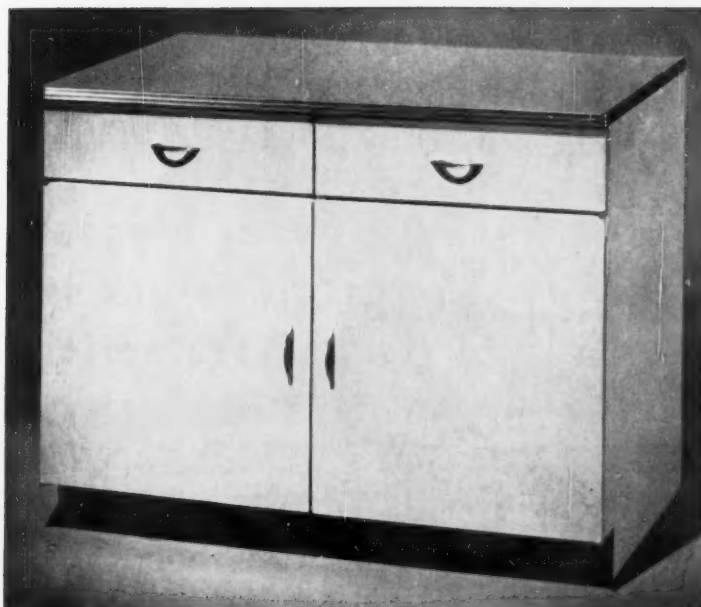
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THE BOOKSHELF

The Essentials of Educational Statistics. By Francis G. Cornell, educational consultant, New York; John Wiley & Sons, Inc., 440 4th Ave., New York. Pp. 375. \$5.75.

Fall 1955 Statistics on Enrollment, Teachers and Schoolhousing in Full-Time Public Elementary and Secondary Day Schools. Circular No. 467, revised. By Samuel Schloss, specialist in educational statistics, and Carol Joy Hobson, research assistant, reports and analysis section, U.S. Office of Education, U.S. Govt. Prtg. Off., Washington 25, D.C. Pp. 8. 15 cents.

COMING EVENTS

MAY

4, 5. Illinois Association of School Business Officials, Allerton Park, Monticello.

11, 12. International Reading Association, Chicago.

20-23. National Congress of Parents and Teachers, 60th annual convention, San Francisco.

JUNE

17-21. National Association of Student Councils of the National Association of Secondary-School Principals, N.E.A., 20th annual national conference, Toledo, Ohio.

JULY

1-7. National Education Association, 94th annual meeting, Portland, Ore.

2-5. National School Public Relations Association, N.E.A., 21st annual meeting, Portland, Ore.

9-14. National School Public Relations Association, public relations seminar, San Francisco.

20-25. National Audio-Visual Convention, Chicago.

AUGUST

26-31. National Conference of Professors of Educational Administration, 10th annual meeting, University of Arkansas.

OCTOBER

2-5. National Council on Schoolhouse Construction, annual meeting, Washington, D.C.

7-11. Association of School Business Officials of the United States and Canada, 42d annual convention, Washington, D.C.

14-17. County and Rural Area Superintendents, N.E.A., 11th national conference, Atlanta, Ga.

22-25. American School Food Service Association, 10th annual convention, Chicago.

NOVEMBER


11-17. American Education Week.


JANUARY

9. National Citizens Commission for the Public Schools, 6th annual dinner, Waldorf-Astoria Hotel, New York.



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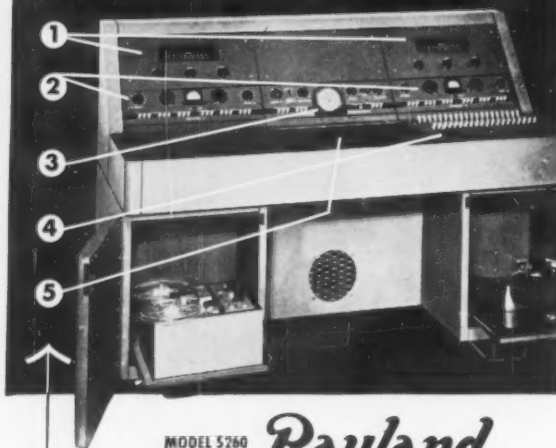
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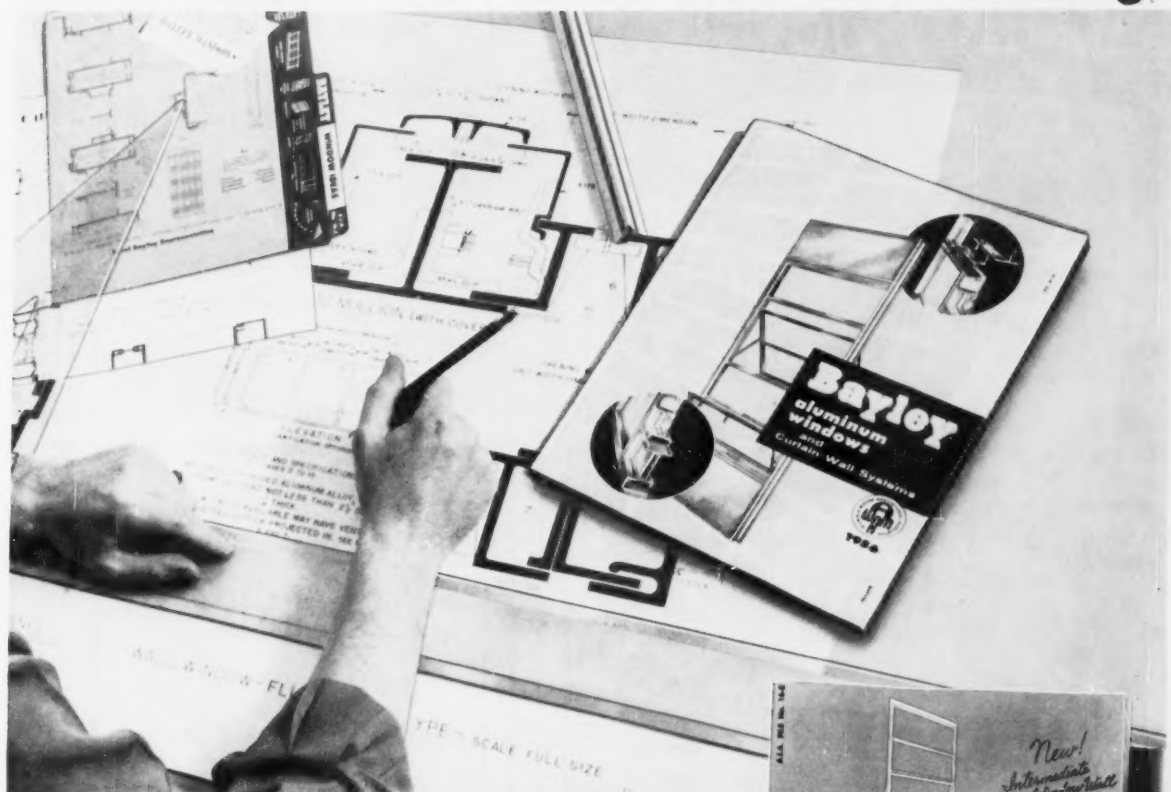


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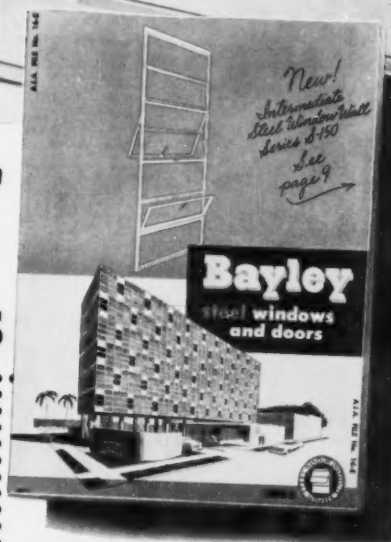
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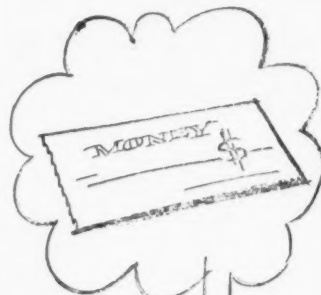
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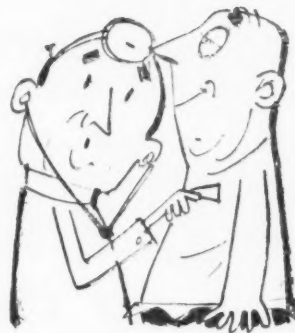
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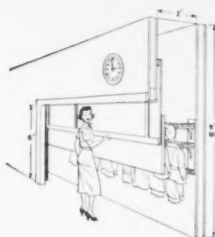
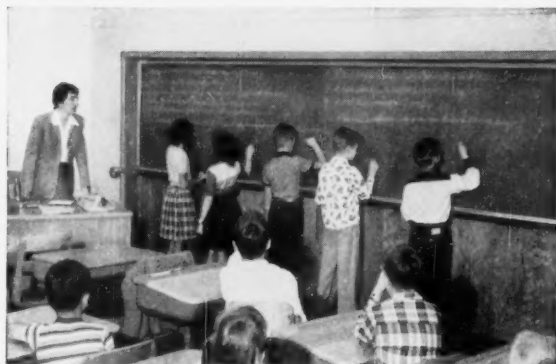
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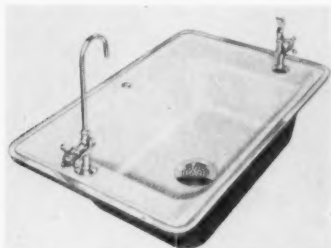
MAY 1956

Edited by BESSIE COVERT

TO HELP YOU get more information quickly on the new products described in this section, we have provided the postage paid card opposite page 216. Just circle the key numbers on the card which correspond with the numbers at the close of each descriptive item in which you are interested. The NATION'S SCHOOLS will send your request to the manufacturers. If you wish other product information, just write us and we shall make every effort to supply it.

Bradley Drinking Fountain Is Counter Type

Designed especially for use in schools and similar institutions, the new Bradley



counter type drinking fountain provides a sanitary source of drinking water. The unit includes bowl, stainless steel mounting rim, drinking bubbler, glass filler faucet and chromium plated sink strainer with tail piece. The new fountain is also available without the glass filler faucet.

The bowl of the new fountain is pressed steel and is available in stainless steel or in acid-resisting vitreous enamel. The enameled bowls are furnished in white, forest green, suntan, sea green, sky blue or citron yellow. The bowl has an outside measurement of 16 by 24 inches with 3 3/4 inch ledge at back, 3 1/4 inch on both sides and 1 1/2 inch at front. It is six inches deep. **Bradley Wash-fountain Co., N. 22nd and W. Michigan Sts., Milwaukee 1, Wis.**

For more details circle #242 on mailing card.

Everett Piano Is Readily Mobile

A new feature on the Series 10 Everett School Piano is a change in design which permits the use of large casters without changing the height of pedals or keys from the floor. Use of the two inch school-type casters makes the piano readily mobile so that it can be moved with little effort from room to room, as well as facilitating its placement on stages, in music rooms and in gymnasiums or auditoriums.

The new Series 10 Everett is a full 44 inch piano with extra string length for full, resonant tone. Over-size felt hammers make the piano easy to play with quickly responsive action. The Series 10 is built to withstand hard use and abuse, being especially constructed for use in schools and other educational institutions. Every detail is engineered for

rugged service. The piano is handsome in appearance with attractive modern lines and a carefully finished hardwood case. It is also available in 41 inch size, permitting teachers to look over the top of the piano to supervise the class while playing. Iron lever back supports on the Everett consoles give them strength and stability for school use. **Everett Piano Co., Div. of Meridan Corp., South Haven 9, Mich.**

For more details circle #243 on mailing card.

Student Wardrobe Is Mobile

A light weight wardrobe for students is offered as an additional functional unit in the Brunswick line of school furniture. It is designed for classroom use to store pupils' outer clothing, and can function as a room divider. The cork



board back panel permits use of the wardrobe as a bulletin board when it is turned with the open side against the wall. Since the wardrobe is easily mobile, it can be filled with clothing, then turned against the wall to serve during the class periods as a bulletin board.

Clothing storage space for 24 coats is provided in each wardrobe by means of 12 fixed hangers and 12 hooks. The hangers and hooks are mounted on a bar and rack arrangement that adjusts for height within an eight inch limit. A full-length wire rack provides for storage of lunch or other accessories above the storage space for overshoes and rubbers. Full swivel caster attachments make the cabinet easily moved around the classroom or from room to room as required. If desired, the cabinet is available with full length metal or island type base.

The cabinet is 21 3/8 by 47 1/2 by 54 1/2 inches on casters or base. **The Brunswick-Balke-Collender Co., 623 S. Wabash Ave., Chicago 5.**

For more details circle #244 on mailing card.

Kindergarten Pads Available in Eight Colors

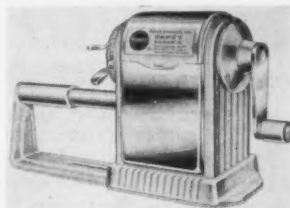
Light weight and attractive colors are features of the new Petersen Kindergarten Pads. They are covered in moisture-proof plastic which is easy to keep clean. The pads, for rest periods and story telling time in kindergartens, are 20 by 40 inches in size, one inch thick. They store in minimum space when not in use. The pads are finished in two colors, one side dark and one side light, and are available in combinations of eight colors. Similar pads in four by eight foot sizes are available for kindergarten tumbling classes. **Petersen Gym Mats, Belfield at Wister St., Philadelphia 44, Pa.**

For more details circle #245 on mailing card.

Dandy Super-10 Sharpener Is Portable Unit

Automatic pencil feed is a feature of the completely redesigned Dandy Super-10 portable pencil sharpener. The Type XA cutter head assembly is completely new and is interchangeable with Type VA cutter head assemblies on earlier models of Apsco sharpeners. The heavy duty seamless extruded aluminum receptacle is sift-proof, and marproof.

Other new features of the Dandy Super-10 model include oil-impregnated steel, nickel-plated insert cutter head shaft; nylon pinion gears for less noise and increased life; all-steel, nickel plated screw-on type handle; all-steel, welded base assembly, marproof cork base pad and fluted steel base side frames for



added strength and beauty. The Dandy Super-10 also has a new automatic chuck assembly. **Apsco Products Inc., 9855 W. Pico Blvd., Los Angeles 34, Calif.**

For more details circle #246 on mailing card.

(Continued on page 190)

What's New ...

Classroom Seating Unit for Secondary Schools

The new Irwin No. 900 Classmate Desk is designed for use in junior and



senior high schools. The streamlined Classmate provides seat and desk in one attractive unit. It is designed for comfort with correct posture, requires minimum floor area, and is easy to move. The posture-form seat and back induce the student to sit upright and reduce fatigue. The design of the unit permits easy ingress and egress and the large trapezoidal-shaped top provides maximum writing area with arm support.

The new desk and seat unit are of steel frame construction with plywood seat and back rest. G-E Textolite in simulated birch pattern or hardwood are available for the desk top. The unit is offered in 16 and 18 inch seat heights. A large open metal book rack for visible, readily accessible storage is optional equipment. **Irwin Seating Company, Grand Rapids, Mich.**

For more details circle #247 on mailing card.

"Build-It-Yourself" Short Wave Kit

The new Knight-Kit "Space Spanner" is an easy-to-build short wave and broadcast receiver kit. It is an efficient and complete unit with built-in loudspeaker which provides short wave coverage from six to 18 megacycles and tunes in standard broadcasts when desired. Simple instructions with pictorial and schematic diagrams facilitate construction of the receiver. It operates on any standard AC outlet and requires no batteries.

Included with the kit is a new 24 page booklet for the beginning kit builder. Basic radio theory is discussed in simple language with many illustrations in 12 pages of the booklet, with the other 12 pages devoted to instructions for building the unit. **Allied Radio Corp., 100 N. Western Ave., Chicago 80.**

For more details circle #248 on mailing card.

(Continued on page 192)

Large Capacity Disposer Features High Speed

Food wastes fed directly into Toledo Model 5275 large capacity disposer are flushed away in seconds, saving time and improving sanitation. Patterned distribution of the cutting elements set up centriflo action which quickly processes food wastes and flushes them through drain vents by a powerful centrifugal force.

Choice of feeding units including a large cone for all-purpose working access, an offset chute for installation in a trim table or a scrapping block with silver



saver adapt the disposer for any use. The large capacity disposer, offered in three and five h.p., has adjustable legs. **Toledo Scale Co., Toledo 1, Ohio.**

For more details circle #249 on mailing card.

Whatever your school fencing needs get the best...

GET CYCLONE!



NO JOB IS TOO LARGE—NO JOB IS TOO SMALL FOR CYCLONE*

CYCLONE FENCE DEPARTMENT, AMERICAN STEEL & WIRE DIVISION
UNITED STATES STEEL CORPORATION
WAUKEGAN, ILLINOIS • SALES OFFICES COAST-TO-COAST
UNITED STATES STEEL EXPORT COMPANY, NEW YORK



*Cyclone is the trade-mark name of fence made only by Cyclone. Accept no substitute.

USS CYCLONE FENCE

UNITED STATES STEEL

Have you ever stopped to consider the many ways fence can serve your school? It protects school property from thieves and vandals . . . keeps small children safely inside the play area . . . simplifies admission collection at athletic events . . . and makes a good-looking boundary for school grounds. Don't all these important uses point up the wisdom of getting the best fence your money can buy? And that means Cyclone Fence!

While it is possible for you to buy cheaper fence than Cyclone, it will probably cost you more per year. Cyclone gives full value for your dollar. Nothing but brand-new, top-quality material is used throughout. Posts and top rails are heavy and rigid. Gates won't drag. The chain link fabric is woven from heavy steel wire and galvanized after weaving for greatest resistance to rust and corrosion. Ask our experienced engineers for advice, and send coupon for free Cyclone Fence booklet. Cyclone is the trade-mark name of fence made only by Cyclone. Accept no substitute. And remember, no job is too large—no job is too small for Cyclone.

—CLIP THIS COUPON—MAIL IT TO—

Cyclone Fence
Dept. M-56
Waukegan, Ill.

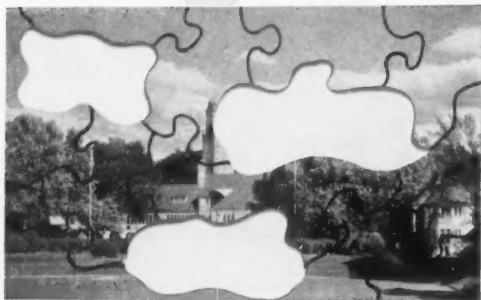
Please send me, without obligation, complete information on Cyclone Fence and Gates.

Name

Address

City State

FLUCTUATING
LOADS



LOW OPERATING—
MAINTENANCE COSTS

LIMITED BOILER
ROOM SPACE

HOW A JIGSAW HEATING PUZZLE WAS SOLVED

KEWANEE

reserve

plus

boilers

rated

MET SCHOOL HEATING NEEDS

A jigsaw puzzle heating problem . . . that's what it looked like at the Cranbrook School for Boys, Bloomfield Hills, Michigan, since the heating needs were so varied. But every puzzle piece fell into place when Kewanee Reserve Plus Rated Boilers were installed, because all heating needs were solved. Here's the way it worked:

Problem 1: Limited boiler room.

Solution: Two compact Kewanee Scotch Type Boilers with 50% reserve power guaranteed adequate heat under all conditions.

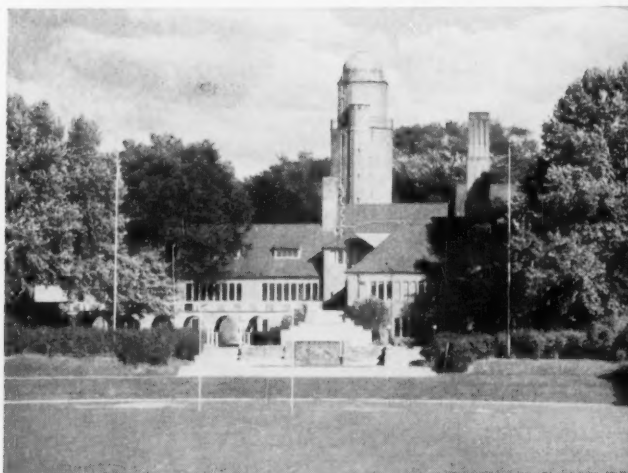
Problem 2: Fluctuating loads—boiler turned off nightly, turned on by stages in the morning.

Solution: Kewanee Boilers had sufficient reserve to assure a fast, dry steam when needed to give quick heat.

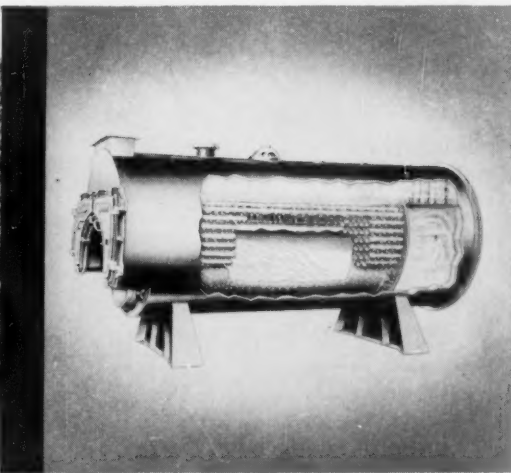
Problem 3: Low operating—maintenance costs.

Solution: Since Kewanee Reserve Plus Rated Boilers certify 50% extra power built in, they operate at "cruising speed." Result—less fuel used, less wear on boiler, greater efficiency delivered.

Kewanee Reserve Plus means boilers are rated on nominal capacity, with adequate power to take care of present needs, emergencies and future expansion. Boilers rated on maximum capacity are inadequate for today's fast growing school needs. Next time select Kewanee Boilers.



Cranbrook School for Boys, Bloomfield Hills, Michigan
Heating Contractor: Laing Plumbing & Heating Company, Pontiac, Michigan
Engineer: Snyder & McLean, Detroit, Michigan



Kewanee LM-800 Series for 15 lbs. steam or 30 lbs. water installed in the Cranbrook School for Boys.

KEWANEE BOILER DIVISION
of AMERICAN-Standard
101 FRANKLIN STREET, KEWANEE, ILLINOIS

KEWANEE BOILERS



You can depend on Kewanee engineering

What's New ...

Upholstered Folding Chair for Auditoriums

A new folding chair with upholstered seat and back is now available for use in



auditoriums and meeting rooms. The space-saving unit gives comfortable seating for long periods of time. The new design features a seat which folds independently of the chair. This permits back-to-back spacing of only 30 inches as compared to the 39 inches necessary with conventional folding chairs. Auditorium, gymnasium or other meeting room seating can thus be considerably increased while providing comfortable chairs for students or other audiences.

The upholstered seat features spring-arch construction for maximum comfort and the contour styling encourages correct posture with upholstered back support. The seat frame is of all-steel construction and all metal parts are Bonderized dipped, sprayed and finished in baked enamel. The chairs are locked together in units of two with metal clamps. A handle installed between coupled chairs permits easy folding and handling for storage. The chairs are available in a broad choice of frame colors as well as a variety of upholstery colors and materials. Back panels are available either plain or fully upholstered. Accessories available for the new upholstered folding chairs include arm rests, tablet arms, kneelers, cup holders, ash trays, bookracks and steel thresholds and bar clamps for arranging chairs in rows. American Seating Company, Grand Rapids 2, Mich.

For more details circle #250 on mailing card.

Super Hil-Sweep Safe for Asphalt Tile

Five years of research and development work have gone into the new Super Hil-Sweep floor mop dressing. Originally formulated for safe use on asphalt tile, Super Hil-Sweep is equally effective on all types of floors. It gives fast thorough dust pick-up, improved coverage due to

extremely slow evaporation and is simple and economical in use. It is also proved fire-safe. Rags saturated in Super Hil-Sweep would not catch fire and the product has no flash point, will not freeze, will not catch fire in use and will not cause spontaneous combustion in storage, according to reports received from the manufacturer. They also state that Super Hil-Sweep is non-slip and non-oily and does not react with wax or other floor finishes.

Super Hil-Sweep is sprayed or sprinkled on mops the night before it is to be used. It soaks evenly into the cotton wicks and one mop can be used to maintain large areas without re-treating. The product magnetically attracts dust and holds it on the mop, yet shaking quickly releases the dust from the mop. Hillyard Chemical Co., St. Joseph, Mo.

For more details circle #251 on mailing card.

Pre-Mix Dispenser Vends Pepsi-Cola

A new line of pre-mix dispensers is now available for vending Pepsi-Cola in



cafeterias, auditoriums, at games and wherever fast dispensing is an advantage. The new dispensers are easy to operate and permit serving many people quickly and efficiently. Use of the dispensers also eliminates the problem of handling cases of bottles, empty bottles and the danger of broken bottles. Handling costs are at a minimum as the dispensers use Pepsi-Cola pre-mixed at the bottling plant. It is chilled to the proper temperature requiring no ice in glasses or cups.

The new dispensers are available in capacities ranging from 25 to 80 gallons per hour, chilled to 40 degrees F. Replacement tanks of the pre-mixed beverage are handled by Pepsi-Cola distributors. The dispensers can be used at school dances and other functions for serving Pepsi-Cola as a money-making venture by the school or school organization. S & S Products, Inc., Dept. 58, P.O. Box 1047, Lima, Ohio.

For more details circle #252 on mailing card.

(Continued on page 194)



... The REAL Bargains in the School Towel Field!

The true evaluation of costs involves more than the original price . . . it's the original price plus performance that counts. That's why users everywhere have discovered that the extra wear they get with famous McArthur SUPER-GYM and SUPER-TURK School Towels pay extra dividends for every dollar invested. The reason is simple—superior construction, two-ply yarns, woven tape selvages. Take advantage of the economy of the 350 to 500 uses and launderings that McArthur School Towels provide . . . and the free McArthur towel repair service. Write today for information.

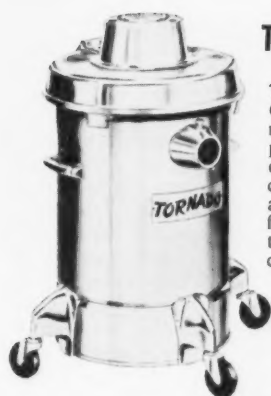
GEO. McARTHUR & SONS, INC.
BARABOO, WIS.

NEW YORK STATE REPRESENTATIVE: Vern Volland, 19 Fairchild Drive, Eggertsville 21, N.Y.

**clean up
your
INSTITUTIONAL MAINTENANCE
COSTS
WITH THE
TORNADO TWINS**

Institutions everywhere know they can depend on the TORNADO TWINS to cut cleaning time and maintenance costs.

The powerful motors are designed to take it, stay clear of repair shops and go about their cleaning business quickly, efficiently . . . noiselessly.



TWIN No. 1

The Tornado Noiseless Cleaner with its 350 m.p.h. suction speed, pulls dirt and water out of every crack and crevice. Hundreds of attachments available for all cleaning operations . . . floors, walls, ceilings or fixtures.



TWIN No. 2

The Tornado all-purpose Floor Machine with dual switch controls, scrubs, polishes, steel wools and sands with ease and speed. Exclusive brush coupler eliminates stooping, couples brush automatically. With or without suds tank for shampooing carpets. 14, 16 or 18 inch brush sizes.



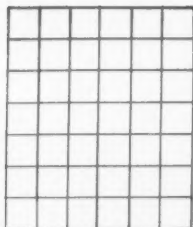
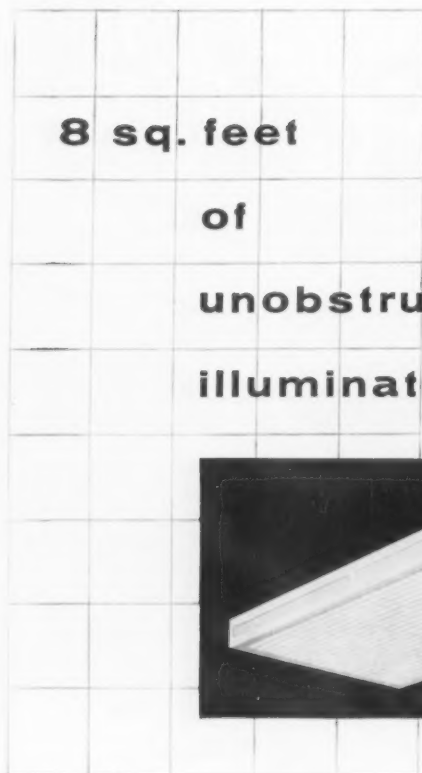
Interiors retain their bright, polished look longer, under the hardest wear, when the TORNADO TWINS do the job. Clean up maintenance costs today . . . let the TORNADO TWINS give you an on-the-job demonstration. Write now!

FREE LITERATURE AVAILABLE • Tornado Noiseless Catalog No. 707 • Tornado Floor Machine Catalog No. 619
"If you have floors—you need Tornado"

BREUER ELECTRIC MFG. CO

5098 North Ravenswood Avenue • Chicago 40, Illinois

ONE FIXTURE:



NEW electro silv-a-king surf-a-lite

Our new Surf-A-Lite achieves a uniform luminosity over its entire 2 ft. x 4 ft. surface—free of visible metal bands and dark islands—with no screws or latches showing when the "Magic Frame" door is closed.

Simplified installation and maintenance are provided through the use of a one-piece housing which includes all electrical components...the snap on Reflector-Wireway Cover and hinged "Magic Frame" door can both be installed and removed without the use of any tools.

SHALLOW 3½" FIXTURE mounts flush to ceiling... modular design for unlimited variety of lighting patterns... engineered for easy maintenance.

Through the use of various diffusing media the desired comfort ratio can be obtained for any installation. They are available in two and four lamp units...12", 17", or 24" wide...4 ft. or 8 ft. long...in ½ sq. "Poly-Cube" polystyrene louvers, pattern #70 low brightness lens panel or Alba Glass diffuser with metal or plastic sides.

Write for complete specification and installation data.



electro silv-a-king corporation

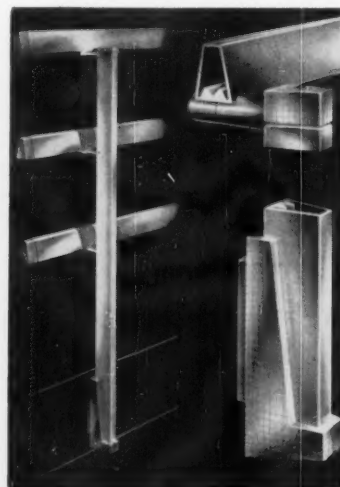
1535 S. Paulina Street, Chicago 8, Ill.
Spruce and Water Sts., Reading, Pa.

DESIGNERS AND MANUFACTURERS OF THE FINEST IN LIGHTING

What's New ...

Tube-Line Aluminum for Low Cost Railings

A low cost aluminum railing material is available for service stairs, exteriors and other locations where cost is a limit-



ing factor. Tube-Line railings are supplied by Blumcraft to ornamental metal fabricators who build and install the lightweight, attractive railings on the job. Shop labor and erection costs are kept to a minimum as Tube-Line railings are fabricated from only one shape for both the handrails and the posts and are assembled with adjustable patented fittings. Blumcraft of Pittsburgh, 460 Melwood St., Pittsburgh 13, Pa.

For more details circle #253 on mailing card.

Awning Window Electrically Operated

An aluminum awning window is now available which is electrically operated. The result of several years of study and experimentation, the new "Push-Button" Window has proved practical in actual installations. The window opens and closes with quiet, positive movements. The control button may be located on the sill or near the window in an easily accessible place. If desired, the window may be controlled from a central switch remotely located. Any number of units can be wired to the same circuit for simultaneous remote control of all windows in the building.

Limit switches prevent over-operation of the windows. A built-in clutch disengages the motor for crank operation in case of power failure or if manual operation is desired. The electrically operated window is especially practical for clerestory or other high window installations or large banks of windows in special areas. The windows afford heavy insulation and are of quality construction. Gate City Sash & Door Co., P. O. Box 901, Fort Lauderdale, Fla.

For more details circle #254 on mailing card.

(Continued on page 196)



“But Cathie, doesn’t it get damp here?”

Cathie: No, Edna. This is the driest cave in New Hampshire.

Edna: You’re spending your whole summer vacation here? But why?

Cathie: Teaching electric typing got me down. Drove me wild. The classes weren’t learning. I simply couldn’t teach on the machines we had. That’s why I’m ’way, ’way away.

Edna: Now, you let me tell *you* something, Cathie. You should have new Royal Electrics in your classes.

Cathie: Why? They’re all alike.

Edna: *No, they’re not!* Royal Electrics have five distinct advantages—the repeat keys for example—which make them easier to teach on, easier to learn on. The Royal touch is divine. And as for Magic[®] Margin, instant carriage return, and Touch Control[®]—they’re out of this world.

Cathie: (wistfully) They *do* sound good...after those clumsy machines. But...

Edna: But nothing! With Royal Electrics teaching is so easy. Believe me, I know! And I’ve got news for you, too. You’re getting new Royal Electrics this fall!

ROYAL[®] electric

portable • standard • Roytype[®] business supplies

Royal Typewriter Company, Division of Royal McBee Corporation

New Free Teaching Aids! For You:
Electric Typing for the Classroom Teacher.
For pupils: *The Key to Relaxed Typing.*
Write to “The School Department, Royal
Typewriter Co., Port Chester, N. Y.”

What's New ...

Telescoping Bleacher Now Produced by Safway

Safway Steel Products has taken over production of the improved Leavitt Tele-



scoping Bleacher. The bleacher will be manufactured and marketed under the name of Safway Telescopic Bleacher, and the Safway bleacher line now will accommodate any possible seating requirement.

Improvements in the telescoping bleacher include gravity latch which locks each row of the bleacher open and prevents premature closing. The latch permits each row to be closed in sequence as required. Ball bearing wheels both at floor level and under seat supports, combined with a system of fixed horizontal bracing, produce maximum ease of operation and prevent racking and binding. The new tow bar permits opening the bleacher from a comfortably erect position and "anti-droop" supports align the vertical skirt boards into a solid, smooth cabinet when the bleacher is closed. The improved bleacher is available from three

to 15 rows and folds back into a cabinet only three feet deep. **Safway Steel Products, Inc., 6234 W. State St., Milwaukee 13, Wis.**

For more details circle #255 on mailing card.

Rolcut Cutting Board Prevents Accidents

A high carbon surgical steel wheel travels along the edge of the baseboard on a rigid I-beam track in the new Rolcut cutting board. The wheel is self-sharpening and is protected by a strong yet lightweight aluminum housing. Cutting and trimming of paper and board can be done in safety, without danger of accidents to teacher or pupils, with the new design. Accurate gridlines for measuring are embossed on the surface of the three-quarter inch plywood baseboard and one-half inch rules are etched in accurate alignment with the grid. The board is mounted on no-mark rubber feet. The Rolcut cutting board is available in six models. **Spin-A-Test Company, Dept. 30, P.O. Box 241, Hermosa Beach, Calif.**

For more details circle #256 on mailing card.

Instantly Adjustable Seat Height for Business Classroom Stool

The redesigned Model S 1827 Adjustrite metal stool has seat height in-

(Continued on page 198)

stantly adjustable from a minimum of 18 inches to as much as 27 inches from the floor. The lightweight, portable stool is designed to serve a multitude of uses in the business classroom, adjusting with a touch to the height needed by students of various heights using desks for writing or for business machines. It is also exceptionally well suited to use in science and shop classrooms.

A new 16 inch cast iron base of modern design gives the stool an attractive appearance. The steel seat is 13 inches in diameter and the unit will stand up under hard use. Wood seat, back rest, a foot rest which moves up or down as



the seat is adjusted, and glides are optional equipment with the new stool. **Ajusto Equipment Co., 2144 Madison Ave., Toledo 2, Ohio.**

For more details circle #257 on mailing card.

CORONET announces a new series of films on the history of INDIA

Modern India is an outgrowth of a history of four thousand years. In order to record this fascinating and complex past accurately, Coronet engaged a special crew to make the *India's History Series* in India. Careful planning at all levels has resulted in the first complete overview of the history of India, selectively organized for Junior and Senior high school students.

The three films, entitled *Early Civilizations*, *Mogul Empire to European Civilization*, and *British Colony to Independence*, trace the influences that marked the great epochs of India's past, stressing the importance of the early invasions, the rise of Buddhism and Hinduism, the growth of the enlightened Mogul empire, the rise of European interest, the British rule, and the realization of independence.

These are some other recent Coronet releases:

Audio-Visual Materials in Teaching
Age of Discovery: English, French, and
Dutch Explorations
Geography of the Pacific States
Geography of the North Central States
Pioneer Boy of the Midwest

Pioneer Community of the Midwest
United States Expansion Series (3)
Life in a Coal-Mining Town
Seeds Grow into Plants
Washington, D. C.: Story of our Capital
French Explorations in the New World

These films join nearly 700 other Coronet 16mm sound motion pictures in natural color or black and white. Each film is closely correlated to the school curriculum. For information concerning preview, purchase or rental of Coronet 16mm sound motion pictures in color or black and white, simply address:

**Coronet
Films**

Dept. NS-556
Coronet Building
Chicago 1, Illinois

MAKE ONE INITIAL INVESTMENT!

Keep your Home Ec Lab up-to-date for years

When you have the latest model appliances in your classroom, teaching is much easier. It's also more effective because students naturally show more enthusiasm for up-to-date homemaking methods taught with up-to-date equipment. The Westinghouse School Plan makes it easy for you to have the latest model appliances in your home ec lab, at low, low cost.



Here's how it works:

1. Schools buy any number they need of these new Westinghouse Appliances at about ½ retail cost:

Speed Electric Ranges
Refrigerators
Upright Home Freezers
Laundromat Automatic Washers
Electric Clothes Dryers
Combination Washer-Dryers
Electric Water Heaters
Automatic Dishwashers
Food Waste Disposer
Vacuum Cleaners
Food Mixer and Accessories
Roaster Oven
Cook-N-Fryer
Rotisserie and Accessories

2. No-charge replacement of appliances with new models continues every year under the School Plan agreement.

3. Any service required under normal usage is provided by the Westinghouse Dealer or Distributor at no charge.

4. Budgets can be stretched to the utmost, because the annual available funds may be used progressively over the years to help you completely equip your home ec lab.

5. Helpful and authoritative teaching aids are supplied every year, without charge.

6. Personal counsel on the care and use of the appliances can be obtained through the servicing dealer.

Send today for the free folder giving details of this plan, and also a listing of useful teaching aids. Request extra copies for others concerned with the purchase of your equipment. Write to:

Westinghouse Electric Corporation
Major Appliance Division
Consumer Service Department
NS-556
Mansfield, Ohio



YOU CAN BE SURE...IF IT'S

Westinghouse

What's New ...

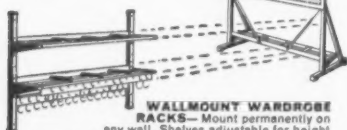


A system of multi-purpose movable steel wardrobe racks with either a chalkboard (blackboard) or a corkboard (bulletin board for pictures, maps, etc.) back. These sturdy, welded furniture steel units provide: (1) Means for holding coats, hats, overshoes and lunch boxes in an efficient and orderly manner; (2) Chalkboards or corkboards to aid class instruction; (3) Efficient, large capacity, space-saving wardrobe units, that go wherever needed, fit any space, and permit complete flexibility in room arrangement.



NO. CH-400 CHALKROBE
42" long, 25" deep, 6 1/2" high on glides (or 6 1/4" high on casters). Hat shelves and hanger bars are adjustable for height—accommodate every age group—(Hold 16 with coat hangers or 24 with coat hooks.) Off-floor shelf for overshoes and 50" x 48" chalkboard.

NO. CO-500 CORKROBE same as No. CH-400 but with corkboard back.



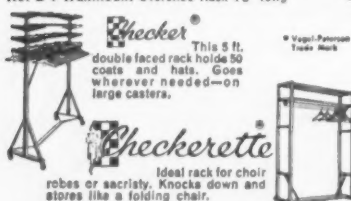
WALLMOUNT WARDROBE RACKS—Mount permanently on any wall. Shelves adjustable for height in 2" steps (accommodate any age group). Hold 4 spaced coat hangers or 8 coat hooks per running foot. Units interlock to make continuous rack of any length.

No. AW-3 Wallmount Coat and Hat Rack 32" long
No. AW-4 Wallmount Coat and Hat Rack 42" long



WALLMOUNT OVERSHOE RACKS—Mount on wall at floor level... extend 11 1/2" out from wall. Interlock to make rack of any length.

No. B-3 Wallmount Overshoe Rack 32" long
No. B-4 Wallmount Overshoe Rack 42" long



Checker This 5 ft. double faced rack holds 50 coats and hats. Goes wherever needed—on large casters.

Checkerette Ideal rack for choir robes or sacristy. Knocks down and stores like a folding chair.

Write for Bulletin SL-25

VOGEL-PETERSON CO.
1127 West 37th Street • Chicago 9, Illinois

Drinking Fountains Harmonize with Modern Design

A new line of drinking fountains blends with contemporary architecture and assures complete sanitation. Four



models of vitreous china in seven colors and white with non-tarnishing Chromard fittings include the Calistoga, high back model with push button glass filler; the Sharon, redesigned wall-hanging model; the Tioga, redesigned semi-recessed model, and pictured, the Saratoga, wall-hung model with low back. The one-piece bubbler construction with a shield to prevent contact with the nozzle and an anti-squirt device permits easy cleaning and eliminates dirt-catching areas for protection against contamination. All fountains feature the Nu-Re-Nu self-closing valve assembly for efficient operation. American Radiator & Standard Sanitary Corp., Pittsburgh 30, Pa.

For more details circle #259 on mailing card.

Magnefile Business Machine Functions Electronically

A new business machine which performs accounting functions electronically is offered in the new Magnefile, Series F. The completely integrated machine permits direct posting from accounting department forms onto a simplified keyboard and requires no special forms, cards, sorting or coding. Information from these entry transactions is automatically computed and stored internally. The status of a particular item or group of items is automatically recorded onto continuous form paper by the typewriter-printer when needed.

The simplicity of a standard office machine is combined with the high speed and large data processing capacity of an electronic computer without intricate programming. All operations are built-in and may be selected at the keyboard. The Magnefile magnetic drum stores records on thousands of items and additional drums can be added if required. The machine is simple to use and easily learned. It requires the approximate space of an office desk and operates without special wiring. Business Machines Div., Electronics Corporation of America, 30 Rockefeller Plaza, New York 20.

For more details circle #259 on mailing card.
(Continued on page 200)



Direct Prices & Discounts to Schools, Churches, Clubs, Lodges and All Organizations



Full line of folding chairs



Above: Transport-Storage Truck No. TSC

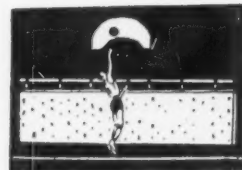
Right: Transport-Storage Truck No. T58



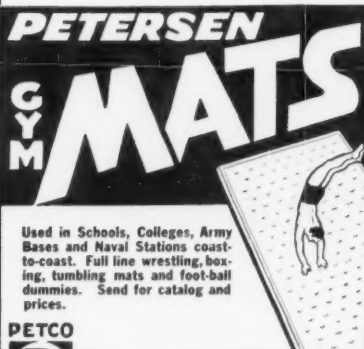
WRITE FOR CATALOG, PRICES AND DISCOUNTS

THE Monroe COMPANY
76 CHURCH STREET, COLFAX, IOWA

WALL MATS



BY...



Used in Schools, Colleges, Army Bases and Naval Stations coast-to-coast. Full line wrestling, boxing, tumbling mats and foot-ball dummies. Send for catalog and prices.

PETCO



Petersen Gym Mats
Belfield Ave. at Wister
Philadelphia 44, Penna.



First in America's major schools

Edwards clock & program systems

Representative of Edwards installations coast-to-coast are these well-known schools:

General George Wingate H. S.
Brooklyn, New York

St. Elizabeth School
Wyckoff, New Jersey

St. Francis of Assisi
Philadelphia, Pennsylvania

Junior-Senior High School
East Lycoming, School District
Hughesville, Pennsylvania

Boston College School of Education
Boston, Massachusetts

Wilton Intermediate School
Wilton, Connecticut

Three School
Decatur, Alabama

Samuel Archer School
Atlanta, Georgia

Clayton County School
Clayton County, Georgia

Aiken County School
Aiken, South Carolina

Hovgood and Bradley School
Murfreesboro, Tennessee

New Trier Township High School
Winnetka, Illinois

Hammond Technical High School
Hammond, Indiana

Emmerick Manual Training H. S.
Indianapolis, Indiana

New Woodworth High School
Cincinnati, Ohio

Marinette High School
Marinette, Wisconsin

**Snyder Park Junior High and
Grayhill Elementary School**
Springfield, Ohio

Garfield Junior High
Hinsdale, Illinois

Goodrell Junior High
Des Moines, Iowa

Bellevue High School
Bellevue, Washington

Skyway Park School
Colorado Springs, Colorado

Sacramento State College
Sacramento, California

Hillsdale High School
San Mateo County, California

All over America, schools of every size and design . . . keep time and schedules with *Edwards Clock and Program Systems*.

Simplicity of design, constant accuracy, dependability and flexibility . . . are a few of the reasons why Edwards systems are so widely preferred. Engineering perfection of the Telechron® motor eliminates any need for hourly correction or complex equipment, provides simultaneous resetting of all clocks immediately after power failure . . . at the flick of a switch or automatically.

Simplicity of design—product of over 80 years of specialization in signaling equipment—eliminates expensive maintenance . . . giving schools everywhere trouble-free service.

For new construction or expansion, it pays to specify the systems so many schools prefer. For more information write to Dept. NS-5, Edwards Company, Inc., Norwalk, Connecticut. (In Canada, Edwards of Canada Ltd., Owen Sound, Ontario).

See your Edwards Technical Specialist for the complete quality line of electric signaling, communication, and protection equipment for every school need.

Specialists in signaling since 1872
EDWARDS
Design • Development • Manufacture

What's New ...

TDC-Robomatic Is Automatic Slide Projector

Fully automatic operation is offered in the new TDC-Robomatic slide pro-



jector. A series of thirty slides can be shown while the operator is comfortably seated away from the projector. The exclusive automatic cycling device enables the user to pre-select any length of time for his slides to be on the screen, from five seconds to one and one-half minutes. The slides may be projected manually if desired or the Robomatic can be operated by remote control. In automatic operation the cycling device projects one slide after another at any pre-selected interval.

Another feature of the new projector is the ability to shorten the screen time of a single slide by pressing the remote control button, without changing the time for successive slides. The projector can be operated either forward or reverse,

manually or automatically. All operating controls are conveniently grouped and illuminated at the back with easy slide tray loading on the right side. Any type of slide mount is accommodated in the TDC Selectrays with equal ease. Different types of mounts may be intermixed in the same tray. The Robomatic is self-contained in a lift-off style case. Bell & Howell Company, 7100 McCormick Rd., Chicago 45.

For more details circle #260 on mailing card.

Junior Kits for Science Instruction

Junior Science Kits are now available to meet the science requirements at the lower elementary level. Developed for teaching the elementary principles of science from kindergarten through third grade, the Junior Kit is a portable laboratory with the equipment necessary for simple experiments. It contains a manual, "Teaching Elementary Science," and is housed in a sturdy, fitted cardboard case. Science Kit, Box 69, Tonawanda, N.Y.

For more details circle #261 on mailing card.

Folding Chairs in Ten Colors

Ten attractive and cheerful colors are now used to finish Samsonite all-steel 2600 folding chairs. Designed to blend

with every color scheme, the chairs are offered in aqua, brown, gray, green, coral, turquoise, gold, metallic gray, willow green and terra cotta.

The chairs are constructed of electrically welded steel tubing with Y type frame. Cross braces are electrically welded tubular steel and the seat is 20 gauge stamped steel, deeply drawn for full form fitting comfort. All parts are made rust-resistant by Bonderizing and finished in chip-resistant enamel. The chairs are strong enough to stand on, have safety-guard seat hinges, are comfortable to sit on, will not tip, fold compactly for easy



storage, and have replaceable, non-marring rubber feet. Shwayder Bros., Inc., Institutional Seating Division, 4270 High St., Detroit 29, Mich.

For more details circle #262 on mailing card.

(Continued on page 202)

CLEANS EVERYTHING BETTER

*New
Improved
Detergent*

REVOLUTIONARY NEW KLEER-MOR WITH CHELATING AGENTS

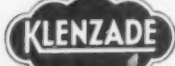
Only the new Kleer-Mor with chelating agents added has these sensational detergent properties:

- Dust-free, non-irritating, non-caking
- Makes all water soft as rain
- Stepped-up concentration for greater cleaning power
- Plentiful long lasting suds

Super-powered for hand cleaning of pots, pans, glasses, dishes



Other Important Institutional Uses
Dining room service, silverware, fixtures, refrigerators, storage bins, woodwork, tile, windows, walls and ceilings. Write for free manual, "Modern Sanitation Practices".



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Branch Offices and Warehouses Throughout America
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Available with
or without
Master Key

For quickest
and easiest
operation, plus
economy,
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Keyless Lock.
In the dark or
in the light, just
Count the Clicks
— presto, it's open.

GOUGLER KEYLESS LOCKS

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Easy to SEE, SELECT, REPLACE
up to 66 different
MAGAZINES, FOLDERS,
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**Halverson
MAGAZINE
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RACK**



Most sensible
"help-yourself" unit you ever saw! New,
instantly adjustable dividers on each shelf
accommodate literature of any width.
Eleven tilt-back pockets insure fully visible
titles, neat arrangement, undamaged
storage. Ideal for Library, Study Room,
Reception Room and Office.

Heavy-gauge, all-steel, finished in Gray
Hammerloid Baked Enamel. Dignified,
sturdy for a long life of convenience.
Mar-preventing rubber feet protect floor,
rugs.

Shipped completely set up. No screws or bolts to assemble.
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Subsidiary of MIM-E-O STENCIL FILES COMPANY

**HOLDS, DISPLAYS
& PROTECTS a
"whole library"**

in less than 1/2 floor space
of average table

MODEL NO. 20P

\$4250 F.O.B. CHICAGO

Overall size, 36" high, 27 1/2"
wide, 15" deep. Pockets 13"
wide, 3/4" deep, 8" high at
front, 11" at back.

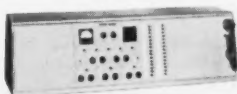
Can a school communications system *Grow*?



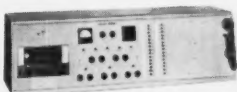
*YES...efficiently and economically,
if you use our plan...*

If you're in the group of school executives
who want an efficient system of communica-
tion, but can't buy the whole ball of wax at
once, our plan makes the same sense as mod-
ern architecture's "expansible house."

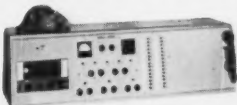
Stromberg-Carlson school communication
systems are designed, engineered and manu-
factured on a building-block method. Each
additional feature is entirely compatible with
the original system and, because we plan it
so, many facilities cost less than if they were
bought piecemeal.



For instance, you might
start with a turret, giv-
ing basic Telephone in-
tercom.



Later, add an AM-FM
tuner for picking up na-
tional news, public
events and music.



Next—a Stromberg-Carl-
son Emergency-Disaster
alarm system for added
student safety.



Finally, a 3-speed Tran-
scription player in the
drawer of the console,
for "piped" music.

Why not ask us to have our nearest representative
make a no-obligation call to discuss your needs?
He even has an appealing Long-Term Payment
plan to offer.



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PRICES... ON THE
BEST FOLDING CHAIRS
YOU CAN BUY!**

Hampden's No. 76
Chair; first choice of
seating experts!
All steel tubular
frame, comfort con-
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All parts rust proofed.
Finish is baked-on,
chip resistant enamel.
Replaceable rubber
feet.

Write... for
sample chair.
Inspect it,
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No. 76

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and name of
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SPECIALTY PRODUCTS, INC.
EASTHAMPTON - MASSACHUSETTS

What's New ...

**"I LIKE
ALPHACOLOR
BRILLIANTS
BECAUSE THEY'RE SO
EASY TO USE!"**



**Alphacolor
Brilliants**

**ARE WINNING THE PRAISE
OF STUDENTS, TEACHERS
AND SUPERVISORS**

BECAUSE:

THEY'RE SO EASY TO USE

The semi-solid cakes of highly concentrated color instantly release strong, opaque tempera at the touch of a wet brush. Use more water if transparency is desired. And they are easy to apply to almost any surface—paper, acetate, glass, metal, cork, etc. Ideal for all art and art craft color work!

NO ADVANCE PREPARATION

Nothing to mix, nothing to spill, nothing to spoil. No tedious clean-up when the class period is ended.



24 SPARKLING, BRILLIANT COLORS

Pleasing palettes of 24, 12, 8 and 4 colors, and in INDIVIDUAL color cakes, REGULAR and "BIGGIE" Size.

WRITE TODAY FOR YOUR

"TEST" SAMPLE

One Regular Size Brilliant, plus full information, sent FREE to teachers.



WEBER COSTELLO COMPANY

CHICAGO HEIGHTS, ILLINOIS

Manufacturers of: Chalkboard • Chalk • Erasers • Art Material • Maps • Globes

Air Diffuser Made for High Ceilinged Areas

Designed for use in gymnasiums, field houses, and auditoriums is a new diffuser called Venturi-Flo Model BP. It is completely adjustable, will provide air patterns ranging from horizontal to vertical, and is capable of projecting hot air from mounting heights up to 50 feet, even with temperature differentials as high as 40 degrees F., asserts the manufacturer. Greater projection of warm air is possible with lower temperature differentials.

The adjustability factor permits it to be used for spot heating as well as for general distribution over wide areas. Adjustments can be made from the floor to provide air patterns ranging from vertical to horizontal. When such adjustment is not practical, an adaptor unit can be furnished to permit adjustment through the duct from the crawl space above the ceiling. **Barber-Colman Co., Rockford, Ill.**

For more details circle #263 on mailing card.

Automatic Ice Machine in Decorator Colors

Bright, attractive decorator colors are used to finish the new Chip-Freeze Automatic Ice Flaking Machines intro-



duced by the Cold Corporation. Colors include Shocking Pink, Baby Blue, Orchid, Canary Yellow, Mint Green and White.

A new feature in the design of the units delivers ice chips at waist level to eliminate the need for stooping or straining. The air-cooled ice-making machine is completely sanitary. Ice is produced at the top of the unit, eliminating the possibility for the accumulation of old ice. Ice is drawn from the lower part of the upper section of the sanitary, stainless steel storage bin. The new unit has a capacity of 560 pounds of ice daily and produces ice flakes at low cost. The entire mechanism is easily accessible from front and rear for servicing. The machine operates automatically as ice is used. **The Cold Corporation of America, 1371 N. Branch St., Chicago 22.**

For more details circle #264 on mailing card.

(Continued on page 204)

Burke
BETTER-BUILT EQUIPMENT

... for
PLAYGROUND, RECREATION, SPORTS
... tops in
Quality • Safety • Service

Heavy-duty Playground
Equipment • • • and Park
Benches • Picnic Tables •
Portable Prefabricated All-
Steel Platforms and Bleachers
• Bicycle Racks • Offset Bas-
ketball Backstops • • • and
other recreational and sports
equipment.

Use the Burke personalized
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Write for complete infor-
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for a **BETTER FUTURE**



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- Gummed Tape Div.
- The Cellucord Corp.
- Kraft Bag Corp.

THE GILMAN PAPER COMPANY, leading specialists in modern paper products, with mills at Gilman, Vermont, and St. Marys, Georgia, relies on a modern National System to provide complete accounting information for efficient business operation.

**"Our *National* System
saves us \$20,000 a year...
returns 133% annually on our investment!"**

— Gilman Paper Company, New York, N. Y.

"Our first National machine saved us \$6,000 the first year. When we installed a second National machine we saved an additional \$14,000 yearly. These savings were a direct result of reduced payroll costs, time saved, overtime eliminated and valuable information being made available. We also obtained further benefits in having records posted to date, quicker accounting information, and easier auditing. Our National System now saves us \$20,000 a year, a return of 133% on our investment.

"We have recently installed a third National and we know from our past experience that we will obtain substantial additional savings in the future. Naturally, we are highly pleased with the results our National System has provided."

Howard Gilman
Vice President

You would do well to investigate the many advantages of a National System. No matter how complex your accounting problems may be, there is a National System specially adapted to *your* needs. Call your nearby National representative for complete details on how Nationals can save you extra time and money. His number is in the yellow pages of your phone book.

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ACCOUNTING MACHINES
ADDING MACHINES • CASH REGISTERS

THE NATIONAL CASH REGISTER COMPANY, Dayton 9, Ohio
986 OFFICES IN 94 COUNTRIES

What's New ...

Projection Magnifier Aids Visually Handicapped

Those handicapped by poor vision can now read more easily with the new Pro-



jection Magnifier. Designed to aid those who cannot read ordinary books, newspapers or letters, even with glasses, the magnifier projects a three or five times enlarged image of the reading material on a built-in illuminated screen, where it can be read easily for prolonged periods at a normal reading distance.

The result of five years of research and development by the staff of The Franklin Institute Laboratories for Research and Development, Philadelphia, with the support of the W. K. Kellogg Foundation, the Projection Magnifier is manufactured by the American Optical Company. The instrument is small, light and rugged enough to be portable. It adjusts automatically to accommodate

reading material of almost any size or thickness. Illumination is provided by one 40 watt lamp. The reader sits comfortably and slides the bookrest, on which the reading material is placed, to the left or away from him as required by the width of the columns. The design ensures an evenly focused image. Use of the projector does not require a darkened room and demands no unusual position or actions on the part of the reader. The Magnifier is also useful for those with normal eyesight in studying stamps, old manuscripts, maps, specimens and the like. American Optical Company, Southbridge, Mass.

For more details circle #265 on mailing card.

Liquid Surgical Soap Is Germicidal

A concentrated U.S.P. liquid surgical soap with two per cent G-11 is offered in Staphacide. It is manufactured from finest vegetable oils under accurate control methods, according to the manufacturer. The hexachlorophene-type soap is a bactericide and is suggested for use wherever a germicidal and deodorizing product is indicated. It is designed for use in all types of liquid soap dispensers and is available in easily refillable polystyrene bottles. B & W Chemical Co., 14526 S. Garfield Ave., Paramount, Calif.

For more details circle #266 on mailing card.

(Continued on page 206)

Reinforced Fiberglass Panel for Increased Strength

Windows in hazardous locations, unsupported skylights and other areas which require extra protection can be glazed with the new Resolite Security Panel. A sheet of expanded metal lath is embedded in a layer of three ounce fiberglass mat impregnated with polyester resin to form the strong, rigid panel. The standard sheet is produced in colorless, semi-clear resin which is translucent but not transparent. The sheet can be supplied in fire-retardant or self-ex-



tinguishing resin and is available in special sizes and colors. The standard sizes are 8 feet long, in 1, 2, 3, or 4 foot widths. Resolite Corp., Zelienople, Pa.

For more details circle #267 on mailing card.

Neumade

**PROTECTS
YOUR
FILM!**

**ALL-STEEL
FILM FILES**

YOU CAN BE SURE that your stored films will be safe from dust, heat or dryness with NEUMADE EFFICIENT ALL STEEL FILM CABINETS.

Model MM-119—A practical storage cabinet for the varied film library. Holds 400, 800, 1200, 1600 ft. reels; 100 filmstrip cans plus utility drawer in base. Overall size: 30" wide, 70" high, 16" deep.

Over 50 models to choose from.
Write for free catalog.

Neumade
PRODUCTS CORPORATION
250 West 57th Street
New York 19, N. Y.

SLATEBESTOS CHALKBOARD

The First Chalkboard of Its Kind — and Still the Best

Fine legible writing surface in Black or Litegreen. Clean smooth erasing.

Guaranteed for the life of the building.



Slatebestos is 1/4 inch thick; for 3/16 inch thickness, ask about NuBestos.

Get details and samples from your architect or direct.

Beckley-Cardy

BECKLEY-CARDY COMPANY
1900 Narragansett • Chicago 39



**SAVES
DOLLARS**

**ON
YOUR
BUDGET**



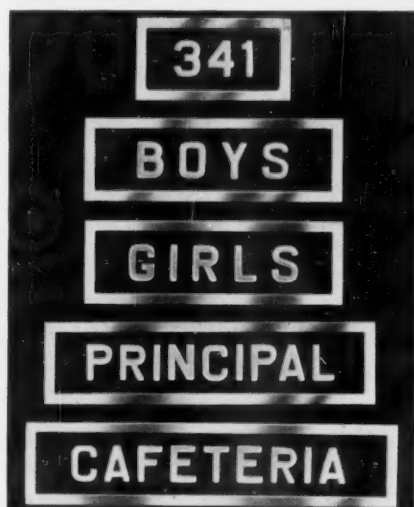
NEW ADJUSTABLE TYPEWRITER DESK

Make adjustments from 26" to 30" quickly and easily by turning "fold away" knob located beneath front right corner of device. Typewriter platform fits closely—no pencils can fall through. Top of desk is 36" long, 20" wide, 30" high, recessed area 16" by 16". Oak with natural oak finish. Shipped assembled.

Write for prices and literature—for sample desk we will assume freight charges.

FEDERAL WOOD INDUSTRIES INC.
1029 W. Chicago Avenue -o- Chicago 22, Illinois

Raised Letter ALUMILITED ALUMINUM SIGNS AND DOOR NUMBERS



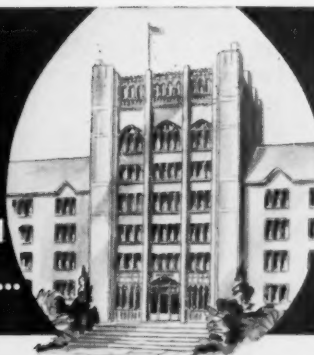
Our Low Prices Will Surprise You!
Ask For Our Style No. 870 "Enduro" SIGNS

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In leading
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NATIONAL LOCK combination self-locking



Shackle Locks

*Provide
Dependable
Locker
Security*

No. 68-264

National Lock Shackle Locks score high with school officials . . . students . . . custodians. Many plus features assure the ultimate in locker security. Soundly engineered, ruggedly made. All working parts are wrought metal with corrosion resistant electro-plating . . . extra strong, chromium plated shackle . . . double case, outer case stainless Steel. Self-locking (complete redialing is required when shackle is closed). Three number dialing . . . thousands of combinations. Available with or without masterkey feature. Without masterkey specify No. 68-265.

LOCKER RECORDS At Your Finger-Tips

Master charts for lock records, complete with leatherette binder, are supplied FREE with quantity lock purchases.

write on your letterhead
for a free sample lock

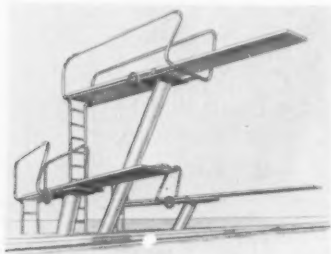


NATIONAL LOCK COMPANY
Rockford, Illinois • Lock Division

What's New ...

Modern Designs in One and Three Meter Towers

Diving towers in modern design are now available in three meter and one



meter heights. The single oblique tubular stem gives the new boards a forward look. The board is sturdily constructed with metal frames. Diving board spring control has a "foot adjusted" fulcrum for convenience in use. The new models are designed for institutional use and are moderate in price. **Swimquip, Inc., 3301 Gilman Rd., El Monte, Calif.**

For more details circle #268 on mailing card.

for an executive to pick up his phone, dial a number and dictate his correspondence to a central recorder without losing any of the initial words. A constantly revolving magnetic drum permits the recording of words and holds the words until the disc reaches operating speed.

Extraneous voices and office noises do not affect the quality of the recording with the new device and an audible warning is sounded if the dictator allows the mouthpiece to move too far away from his voice so that the recording is not clear. The automatic recording machines are linked to a given extension number on the intra-office switchboard for operation of Dial Televoice. Personnel wishing to dictate dial the assigned extension number. The selector automatically finds a free machine when more than one machine is available and the dictation is recorded. The new electronic system eliminates ineffective recording of dictation. **Thomas A. Edison, Inc., West Orange, N.J.**

For more details circle #269 on mailing card.

and is available to all schools for use in gymnasiums, swimming pools, shower and locker rooms. Sani-Mist is a fungicide described as a preventive solution for the common infection called athlete's foot. The purchase of five or more gallons of the solution entitles the school to the free loan of the dispenser.

The dispenser unit is rustproof, clean and inviting, encouraging students to take advantage of the preventive treatment. It operates by releasing a fine spray of the fungicide over feet and ankles when the student stands on the treadle. The design of the dispenser prevents water or solution draining back



Electronic Device for Telephone Dictation

Inter-office dial telephones are used with the new Dial Televoice System introduced by Edison Voicewriter Division. The electronic device makes it possible

Fungicide Dispenser Offered on Loan Basis

Free distribution of the Sani-Mister dispenser for prevention of athlete's foot is now offered on a loan basis. The new policy has recently been put into effect

into the closed solution tank, thus ensuring a fresh uncontaminated spray for each user. **Sani-Mist, Inc., 1724 Chestnut St., Philadelphia 3, Pa.**

For more details circle #270 on mailing card.

(Continued on page 208)



- ★ Easy Folding!
- ★ Compact Storage!
- ★ Du-Honey 20 Safety Lock!
- ★ Beautiful Smooth Tops!
- ★ Double Bracing!



5 year guarantee on all Midwest Legs

A COMPLETE LINE OF FOLDING TABLES

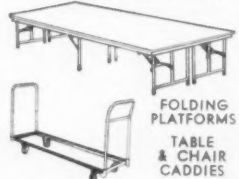
Wide range of styles and sizes—
Choice of tops

Midwest Folding Tables feature the exclusive Du-Honey 20 safety lock that secures the legs automatically in both the folded and the extended positions. Improved leg design gives added strength with greater comfort. All-welded construction. Extra strong under-bracing with tops laminated to the frame with special hot press glue process. Reinforced recessed steel apron.

Write for complete catalog, today!



CHORAL & BAND STANDS



FOLDING
PLATFORMS
TABLE
& CHAIR
CADDIES

Midwest FOLDING PRODUCTS SALES CORP.
Dept. 765, ROSELLE, ILLINOIS

ALLIED'S best buys in RECORDING EQUIPMENT FOR SCHOOLS

"BEST BUY" IN RECORDING TAPE



1800 FT.
REEL
\$249

knight "plus-play"

NEW LOW PRICE on top quality tape; provides 50% more playing time on standard-size reels. Wide response, low distortion, uniform output. Have longer recording time—the very best for less.

96 R 982.
7" 1800-ft. reel. \$2.79
Only \$2.49
5 or more, each. \$2.49

ALLIED stocks leading makes of tape recorders and all recording accessories. See our Catalog for complete money-saving selections.



knight "PUSH-BUTTON" Automatic Tape Recorder

Judged "Best Buy" among recording experts and educators. Features unique Push-Button Keyboard for instant recording with remarkably faithful reproduction. Has 2-speed dual-track recording mechanism and efficient erase system. Records up to 2 hours on a single tape. For instant playback, just push a button; also has push-button control of forward, reverse and stop functions. Records with excellent fidelity from microphone, radio or phonograph. Plays back through built-in amplifier and high-quality speaker. Simple to operate. Compact, attractive. Complete with microphone, 600-ft. reel of tape and take-up reel. Shpg. wt., 29 lbs.

96 RZ 675. KNIGHT Recorder. Only \$89.95



FREE 324-Page 1956 Catalog

Send for the leading buying guide to everything in electronics for the school: Sound and Recording equipment; Training Kits, Lab instruments, Tools, Books, Electronic Parts, etc. Write for FREE copy today.

ALLIED RADIO

100 N. Western Ave., Dept. 10-E-6
Chicago 89, Ill.

All Muscle, and Built for Safety!



MODEL 10802 — 240-inch wheelbase.



MODEL 8802 — 240-inch wheelbase.

Two New Chevrolet Models for 60-Pupil Bodies



These brand-new Chevrolet school bus chassis models are built big and brawny to seat a high capacity of 60 pupils! And they're tougher all the way through for extra safety — with heavier frames, huskier suspensions, bigger brakes, stronger wheel mountings and rugged new rear axles.

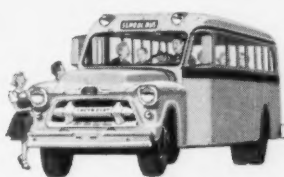
Modern V8 power is standard in both

models: the big new 322-cu.-in. Loadmaster V8 in model 10802 (with a new 5-speed transmission); the ultra-short-stroke Taskmaster V8 (with 4-speed Synchro-Mesh) in model 8802. There's extra safety in the highly efficient performance of these engines, longer life in their modern short-stroke design! Power Brakes and tubeless tires are included at no extra cost.

Other chassis models by Chevrolet are:



6802
220-inch wheelbase,
48- to 54-pupil capacity body.



6702
194-inch wheelbase,
42- to 48-pupil capacity body.



4502
154-inch wheelbase,
30- to 36-pupil capacity body.

Standard Chevrolet truck models 3106 and 3116, 8-passenger Suburban Carryalls, are ideal for economical small-group transportation. All chassis models meet or exceed the most recent National Minimum School Bus Standards. Call your Chevrolet dealer for complete details and specifications. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.



New Chevrolet School Bus Chassis

What's New ...

Series 100 Folding Chairs of Tubular Steel

The Series 100 Folding Chairs are an all-new line constructed of tubular steel.



The frame folding action acts on two strong steel rods which are synchronized to double action hinges. The spun head rear pivot rod provides seat support, additional frame strength and prevents the seat from accidental tipping. New vertical frame stretchers at seat pivot points on the front legs increase structural strength and rigidity. Other construction features include form-fitting, deep drawn, die-formed backrest panel securely welded to chair frame, front and rear leg braces of 10 gauge cold rolled electrically welded steel tubing, and non-

marring beige rubber feet of new design for more secure floor contact.

Model No. 102 in the line is an entirely new model with a large modern "bucket" type molded wood seat. Exceptional seating comfort is assured with the new chair which has all structural features of other chairs in the series. **Krueger Metal Products Co., Green Bay, Wis.**

For more details circle #271 on mailing card.

Fluorescent Fixture Hugs Ceiling

The new Commonwealth thinline fluorescent fixture is only three inches deep. Although surface mounted, it gives the effect of being recessed, thereby permitting installation in new construction, remodeling or modernization where minimum ceiling heights pose a problem.

Originally developed for use in remodeling a building with low ceilings, the Commonwealth employs a Corning #70 lens and has the ballast in the end. It is available in one to eight lamp sizes, with or without opaque light panels at sides. The glass frame swings down for easy access and maintenance and the surface is easily mounted. The fixture is constructed of heavy gauge steel, has UL-ETL approved ballasts and is completely framed in glass. **HOLDENline Co., 2301 Scranton Rd., Cleveland 13, Ohio.**

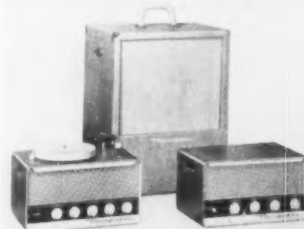
For more details circle #272 on mailing card.

(Continued on page 210)

Pacemaker Amplifiers at Budget Prices

A completely new line of institutional amplifiers is available in the Pacemakers. Of modern design and engineering, the line is priced for institutional budgets. Eight models and various accessories are included in the new Pacemaker line, ranging from a 10-watt AC amplifier through two six-volt 20-watt mobile amplifiers, one with single speed and one with three speed phono top, to a systems case which will fit all models.

The modern styling of all models includes recessed and illuminated dial panels, inputs on the frontal panel, carrying handles recessed and carefully located for balance, and a special mar-



resistant finish. The mechanical features of the new line ensure top performance. **Bell Sound Systems, Inc., 555 Marion Rd., Columbus 7, Ohio.**

For more details circle #273 on mailing card.

Lather • Fragrance • Safety

Premium antiseptic liquid soap

Balmaseptic

For washroom and shower
Contains Hexachlorophene

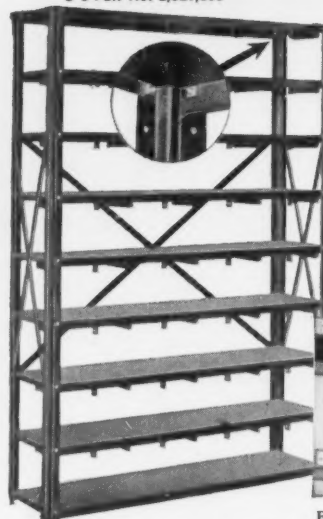
Clear, brilliant Balmaseptic rubs up quickly into handfuls of fragrant lather. Cleanses energetically, yet does not irritate the skin—does not chap. Regular use keeps the hands surgically clean: the **HEX**achlorophene puts the **HEX** on bacteria. Balmaseptic dispenses neatly—stores perfectly: does not turn cloudy or rancid, regardless of climate. Exceeds forthcoming U.S.P. Specifications for Hexachlorophene liquid soap

For free sanitary survey
of your premises ask
your Dolge service man

Dependable
DOLGE
WESTPORT, CONNECTICUT

NEUBAUER
"TWIN-POST"

U S Pat. No. 2,621,800



We also make Neubauer "Twin-Post" shelving in range of sizes. Write for literature.

Gym BASKET RACK

Rigid Corner Posts— Safer Recessed Hasps

The Neubauer "TWIN-POST" corners are actually 2 posts with 3 strong corners (see inset circle). They keep the whole basket rack rigid and in line.

Note below how dividers guide and separate baskets and how hasp and padlock are nearly recessed inside shelf edge. Eliminates danger of cuts and bruises.



FREE ESTIMATES—Neubauer gym Basket Racks are made in capacity desired for any size basket and can be equipped with casters. Olive green or airline grey. Special colors available.

Inquiries invited from school supply dealers.

NEUBAUER MFG. CO.

2027 Central Ave.
Minneapolis 28, Minnesota

Modern Treatment for School Noise Problems

The Brookside School in Baldwin is an excellent example of Acousti-Celotex Sound Conditioning at work.

Wherever noise might prove disturbing to study and concentration, this acoustical treatment provides the economical solution. The resulting atmosphere of *quiet comfort* serves as an aid to efficiency and morale of both students and teachers.

Beautiful, Functional—With an attractive ceiling of Acousti-Celotex Tile, definite acoustical improvements are effected. Unwanted sounds of conversation and traffic are arrested in classrooms, corridors, auditoriums, study halls, cafeterias, gymnasiums. This ceiling treatment is installed in existing buildings without functional inter-

ruption, or during new construction, and needs no special maintenance thereafter. Of high sound-absorption value, it may be washed *repeatedly* and painted *repeatedly* without loss of sound-absorbing qualities.

No Charge for "Know-How," because you don't pay a penny for the most important part of Acousti-Celotex Sound Conditioning—*30 years of sound engineering experience*—in acoustical installations of all types, under all conditions. **Mail Coupon Today** for a Sound Conditioning Survey Chart that will bring you a *free analysis* of the noise and acoustical problems in your school, plus a free factual booklet, "Sound Conditioning for Schools and Colleges." There is no obligation.



Brookside School, Baldwin, Long Island, showing classroom and corridor with installations of Acousti-Celotex Random Pattern® Mineral Fiber Tile. Architect: Emil A. Schmidlin, East Orange, New Jersey. General Contractor: Scarsdale Construction Company, Scarsdale, New York. Acousti-Celotex Contractor: Jacobson & Company, Inc., New York City. [®]PAT. NO. D-169,763



ACOUSTI-CELOTEX
REGISTERED U.S. PAT. OFF.
Sound Conditioning

Products for Every Sound Conditioning Problem—The Celotex Corporation, 120 S. LaSalle Street, Chicago 3, Illinois • In Canada: Dominion Sound Equipments, Ltd., Montreal, Quebec

Vol. 57, No. 5, May 1956

—Mail This Coupon!—

The Celotex Corporation, Dept. M-56
120 S. LaSalle St., Chicago 3, Illinois

Without cost or obligation, please send me the Acousti-Celotex Sound Conditioning Survey Chart, and your booklet, "Sound Conditioning for Schools and Colleges."

Name _____ Title _____

Institution _____

Address _____

City _____ Zone _____ State _____

What's New ...

Business Education Table Has Tote Tray

Sturdy tubular steel tables are available in several sizes and styles for use in busi-



ness education classrooms. They are offered in 26 1/4 inch heights for use with typewriters and business machines and in 30 1/2 inch heights with lowered section for machines and desk height work areas. Of all welded construction, the tables have self-leveling glides to ensure steadiness, even on uneven floors.

The desks are available with either left or right hand drawer, as desired, with 24 by 36 or 24 by 48 inch work tops, and with a removable tote tray so that the student can transfer work from one desk or table to another. The durable top is of Duron and top, drawer and tote tray

are painted in green, gray or tan. Hardware Engineering Co., Inc., 802 E. King St., Garrett, Ind.

For more details circle #274 on mailing card.

Treated Cloth Collects and Holds Dust

A new dust cloth known as Dustix is now available for speedy and clean dusting. The chemically treated cloth quickly picks up and holds all dust, lint and dirt particles, even those too small to be seen by the naked eye. It cleans furniture, floors and other areas with one wiping of the surface and holds the dust so that it does not scatter and resettle.

The Dustix dust cloth remains soft and tacky indefinitely, is proof against spontaneous combustion, therefore eliminating any fire hazard, and is always ready for use. Modern 1st Aid Necessities Co., 737 W. Randolph St., Chicago 6, Ill.

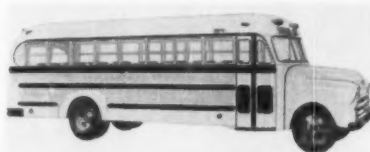
For more details circle #275 on mailing card.

Super-Rigid Steel in Superior School Coach

Super-Rigid is a new group of body steels used for the first time in the new 1956 Superior School Coach. The 25th anniversary model of the all-steel school coach has Super-Rigid Steel Interior Panels which are specially stucco rolled for extra durability, scratch resistance

and attractive appearance inside the bus. A fine ribbed pattern is used in Super-Rigid steel seat backs, enabling them to stand up well under scratches and scuffs. The Super-Rigid steel side panels are deep ribbed, both inside and outside, for increased strength and impact resistance.

The result of three years of development, Super-Rigid processing increases the strength of the basic steel, resists scuffs and scratches, eliminates glare and reflection and improves appearance. Other features of the 1956 Superior Coach include a completely new front end embodying functional design and practical approach. The new Tru-View front end has a special swept-back curved windshield for maximum vision, front pillars designed to increase side visibility and eliminate critical blind spots, and bottom-mounted windshield wipers for better cleaning. In addition to maximum



safety features, the new coach is constructed for greater durability and lower maintenance costs. Superior Coach Corp., Lima, Ohio.

For more details circle #276 on mailing card.

(Continued on page 212)

univex

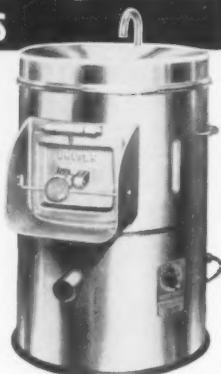
VEGETABLE PEELERS

\$150⁰⁰

Model G

- PORTABLE
- Stainless Steel Construction
- Peel 20 lbs. one minute
- Automatically Timed

compare SAVES up to \$3.00 per 100 lbs. over hand peeling.



economy model EC



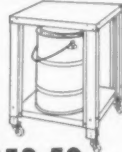
\$115.00

floor model GP



\$240.00

Portable Stand and Peel Trap MO. 100



\$53.50

VISIT OUR BOOTH A-30
NAT. REST. SHOW
NAVY PIER, CHICAGO

UNIVERSAL INDUSTRIES
378 MYSTIC AVE.
SOMERVILLE 45, MASS.



No. 1400 Desk
24" Size

No. 1400 Chair
16" Size

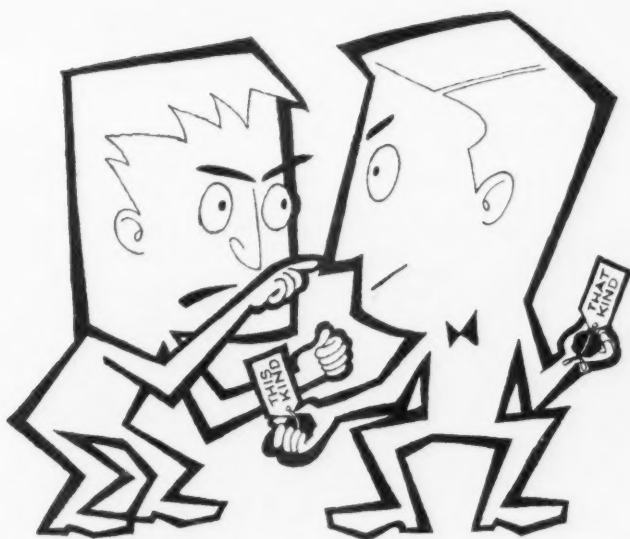
SUPERIOR SCHOOL FURNITURE

Construction of selected Appalachian kiln-dried Beech. Desk units with mortise and pegged tenon; chairs with spiral-grooved dowels and rigidly glued corner blocks. In Natural, Warmtone, or School Brown. Line also includes Movable Chair Desks, Tables, Tablet Arm Chairs, and Teachers Desk.

Also available with plastic surface.

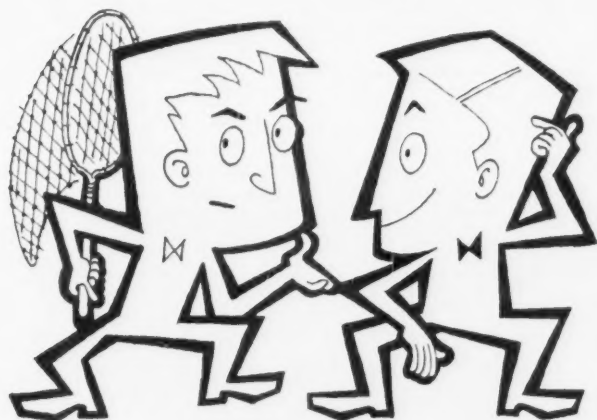
Write for name of authorized distributor in your state.

WILLIAMS & BROWER, Incorporated
SILER CITY • NORTH CAROLINA



What's the big idea
buying several kinds
of coal for our
steam plants?

It's a good idea. The kind of coal that burns most economically in the old boilers isn't efficient for the new ones.



How do you know
you're right?

Look at the coal bills. We are generating more steam at a lower fuel cost. You can tell from the ashes we are getting more complete combustion, and there's less clinkering.



Where did you
get this idea, anyway?

From the C & O Coal Department. They convinced us that different types of burning equipment need different types of coal. From the high quality coal produced on the C & O, we selected the quality and size of coal that works best in our particular installations.



There's a lot more to buying coal than the cost per million BTU. Why not contact coal producers on the C & O to solve your particular fuel requirements, or write to: R. C. Riedinger, General Coal Traffic Manager, Chesapeake & Ohio Railway Co., Terminal Tower, Cleveland 1, Ohio, for the assistance of a C & O fuel service engineer.

Chesapeake and Ohio Railway

WORLD'S LARGEST CARRIER

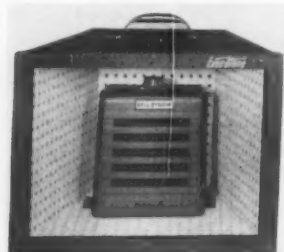


OF BITUMINOUS COAL

What's New ...

Acoustic Box for Telephone Teaching

Classroom teaching of handicapped children in the home through school-to-



home telephone installations can now be improved through use of a new acoustic box. School-to-home telephone equipment is super sensitive as it is designed to pick up voices of the teacher and classmates for transmittal to the handicapped child who participates from his bed at home. As a result, background noises, vibration and other acoustic effects are picked up in addition to normal conversation. In some classrooms with bare walls and lack of sound-absorbent materials a resonant echo or hollowness makes it difficult for the handicapped child to hear. The new acoustic box developed to help correct these conditions is available through Bell system and most independent telephone companies who

make the school-to-home telephone installations.

The Executone Model M-35 acoustically lined soundproof booth is 10 inches high, 13½ inches wide and nine inches deep. The classroom station is inserted in the booth which is placed on a shelf or table and turned toward the teacher and students and away from the main sources of undesirable noises for best results. **Executone, Inc., Special Education Div., 415 Lexington Ave., New York 17.**

For more details circle #277 on mailing card.

Plug-in Busway System for Light, Power Loads

A factory-assembled plug-in busway system permits direct connection to bus bars for feeding lighting and power loads in schools. The General Electric busway, known as Type FVK Flex-A-Power, incorporates either aluminum or copper bus bars and is designed for 225 to 1000 ampere, 600-volt secondary feeder systems. It is used for 2 and 3-pole, 600-volt, 3 phase, 4 wire, 120/208Y-volt, and 480Y/277-volt applications. **General Electric Co., Plainville, Conn.**

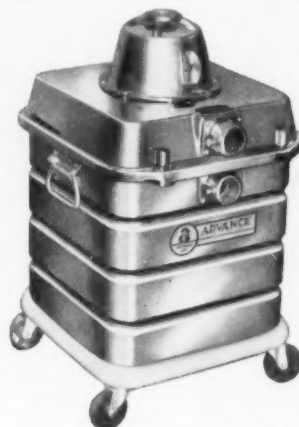
For more details circle #278 on mailing card.

More Tank Capacity in Vacuum Cleaner

Twenty-five per cent more tank capac-

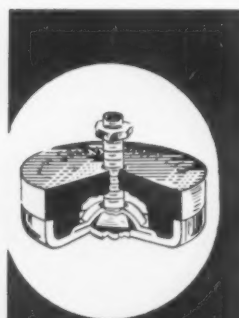
(Continued on page 214)

ity than other designs of the same overall size is made possible by the square design of the industrial wet-dry vacuum cleaner announced by Advance Floor Machine Company. The Hydro-Jet cleaner is also equipped with a "fool-proof," automatic shut off consisting of a metal ball which rises with the water in the tank. The ball is protected by a wire cage which also serves as a stand for the cover. A quick-coupling device



permits the operator to attach and lock hoses or tools in place with one fast motion. **Advance Floor Machine Co., 2613 4th St. S.E., Minneapolis 14, Minn.**

For more details circle #279 on mailing card.



SPHINX NOISELESS CHAIR GLIDES

MADE ESPECIALLY FOR
SCHOOL FURNITURE

Longer wear means lower
cost per year of service.

sphinx

CHAIR GLIDE
COMPANY

FULLERTON
CALIFORNIA

Absorbs all
shock and
vibration
noise.

PLEASE MAIL FREE SAMPLES TO:

NAME _____
ADDRESS _____
CITY _____
STATE _____

Clip Coupon
and Mail for
FREE SAMPLES
NO OBLIGATION



C-7702 ART TABLE

Have budget troubles? Can't obtain enough tables? Let Mayline show you how to buy basic equipment now and add completing units later, ease budget strain.

C-7703B is complete table. Units can be purchased separately. Buy basic table C-7703. Later add board storage unit C-7720; finish with drawer unit C-7721. Or, buy table C-7702. May we quote prices?

Symbol of **MAYLINE** Superiority

MAYLINE COMPANY
631 N. Commerce St.,
Sheboygan, Wis.



C-7703B DRAWING TABLE

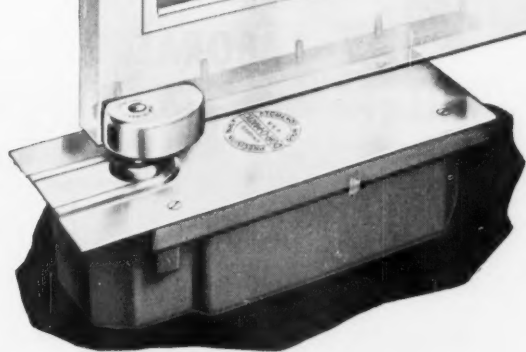
MAYLINE

DOR-O-MATIC

CONCEALED-IN-THE-FLOOR

DOOR CONTROLS

with built-in protection



**DOR-O-MATIC INVISIBLE DOR-MAN
NOW AVAILABLE IN 2 MODELS**

If you wish to have completely automatic door controls, choose the Invisible Dor-Man . . . in carpet-actuated or handle-actuated models. Either type will open your doors quickly, quietly, automatically.

SEND FOR ILLUSTRATED BROCHURES TODAY

6163



DOR-O-MATIC

***Control as they open
Control as they close***

Select Dor-O-Matic for metal, glass, or wood doors. Installed with any one of them, Dor-O-Matic gives uniform opening control and produces a positive, 2-speed, door closing action . . . yet your door retains an eye-appealing appearance.

Dor-O-Matic's special protective features include a positive back-stop and built-in hold-open device (optional). They protect doors and walls. Safer for children, too. Simple design and finest construction assure long, trouble-free service. Choose yours now from 31 models.

**Only DOR-O-MATIC provides
these 10 service advantages**

- | | |
|-------------------------------|----------------------------------|
| 1. Positive uniform control | 6. Two-speed closing action |
| 2. Built-in hold-open device | 7. Built-in leveling screws |
| 3. No accidental hold-open | 8. Permanent oil seal at spindle |
| 4. Positive centering of door | 9. No seasonal adjustment |
| 5. Positive back-stop | 10. Easy installation |

**DIVISION OF REPUBLIC INDUSTRIES, INC.
4430 North Knox Avenue • Chicago 30, Illinois**

IN CANADA: Dor-O-Matic of Canada, 550 Hopewell Ave., Toronto 10, Ont.
EXPORT REPRESENTATIVES: Consultants International, 11 W. 42nd St., New York 36

What's New ...

Product Literature

• The full line of products developed by Finnell Systems, Inc., 200 East St., Elkhart, Ind., to aid in efficient floor care is discussed in a new four-page folder. Products described and illustrated include combination scrubber-vac machines, conventional scrubbing-polishing machines, steel-wool pads, applicators, vacuum cleaners, mop trucks and other mopping equipment and a Carryall for transporting cleaning supplies and equipment. Also included is information on waxes, sealers and cleansers developed by the company.

For more details circle #280 on mailing card.

• Catalog No. 56, "Maps, Globes and Charts," is now ready for distribution by Denoyer-Geppert, 5235 Ravenswood Ave., Chicago 40. The four color cover carries an illustration of a world relief globe. Full color illustrations are used throughout the 65 page catalog to show maps, charts and anatomical models manufactured by the company.

For more details circle #281 on mailing card.

• Two folders on the subject of micro-filming records are available from Remington Rand, Div. of Sperry Rand Corp., 315 Fourth Ave., New York 10. A six-page illustrated case history discusses the reduction of record storage problems in educational institutions. Vital records on

alumni of The City College of New York have been microfilmed and the story of the saving in space is told in the illustrated folder. The second folder tells the story of savings in time, space and money through the microfilming of students' school records from kindergarten to graduation in the Norfolk, Virginia schools.

For more details circle #282 on mailing card.

• The complete line of Winnen Incinerators for institutional use is described in a new four-page folder available from Winnen Incinerator Co., 932 Broadway, Bedford, Ohio. Printed in two colors, the folder illustrates and describes each item in the line with specifications, cutaway view showing features of the incinerators and a list of optional equipment.

For more details circle #283 on mailing card.

• Control consoles for central sound systems are described and illustrated in Catalog S.130 offered by the Radio Corporation of America, Building 15-1, Camden 2, N.J. The six-page catalog is written in non-technical language and gives complete application information with descriptive details on the basic functions of a single channel sound control console. Several variations of RCA single channel consoles are shown in the illustrations and technical specifications and a dimension drawing are included.

For more details circle #284 on mailing card.

(Continued on page 216)

• The 1956 edition of "Educators Guide to Free Tapes, Scripts and Transcriptions" is now available from Educators Progress Service, Randolph, Wis., at \$5.75 per copy.

For more details circle #285 on mailing card.

• A 24 page catalog of Audio-Visual Aids 1955-56 is available from The Filmstrip House, 15 W. 46th St., New York 36. Filmstrips and records for elementary and high school are listed in the new catalog which includes data on new sets on mathematics, history, social studies, English and art subjects.

For more details circle #286 on mailing card.

• Fire Equipment Manufacturers' Association, Inc., 1 Gateway Center, Pittsburgh 22, Pa. has issued a 12-page "Safety Code for Inspecting, Recharging and Maintaining Portable Fire Extinguishers." The code has been developed as a service to assist those responsible in taking proper care of fire equipment.

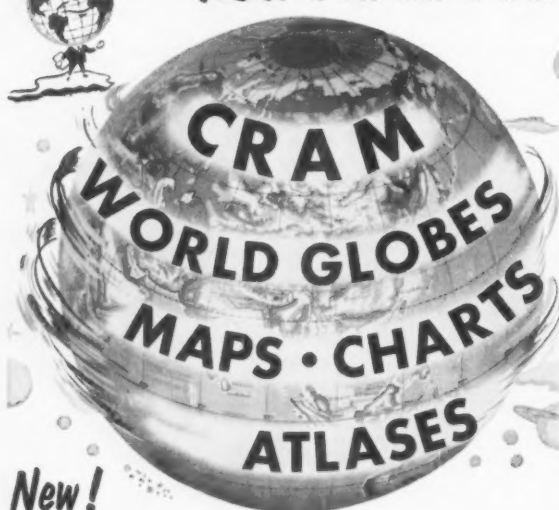
For more details circle #287 on mailing card.

• The quick-dry base and smooth, contoured design of Cloverlane Melamine Dinnerware are shown in a new folder released by Chicago Molded Products Corp., 1020 N. Kolmar Ave., Chicago 51. The folder is headed, "A New Kind of Dinnerware, Cloverlane." It tells the story of the new line and shows the five attractive colors in which it is offered.

For more details circle #288 on mailing card.

the Cram Man says:

NOW is the time to order



New!

Visual Aids for the Teaching Profession

Universally accepted as the teacher's favorite. Graded to fit the pupils' mental maturity. MARK-ON RUB-OFF surface. Many other exclusive features. Backed by over 89 years editorial experience.

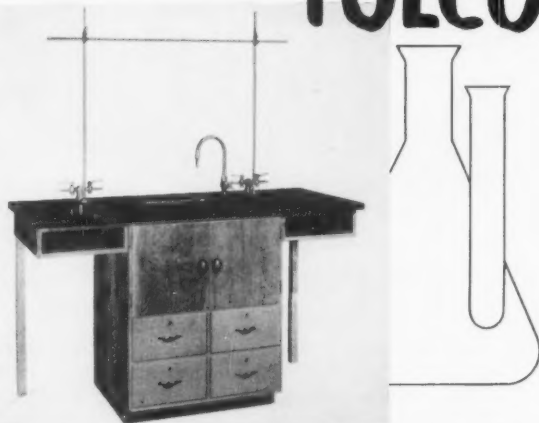
Save money—Let a Cram man call and survey your equipment and help you plan a buying program for your school. Send for Cat. 88-B.



THE GEORGE F. CRAM COMPANY, INC.
730 EAST WASHINGTON STREET • INDIANAPOLIS 7, INDIANA



Now - LABORATORY FURNITURE by TOLCO

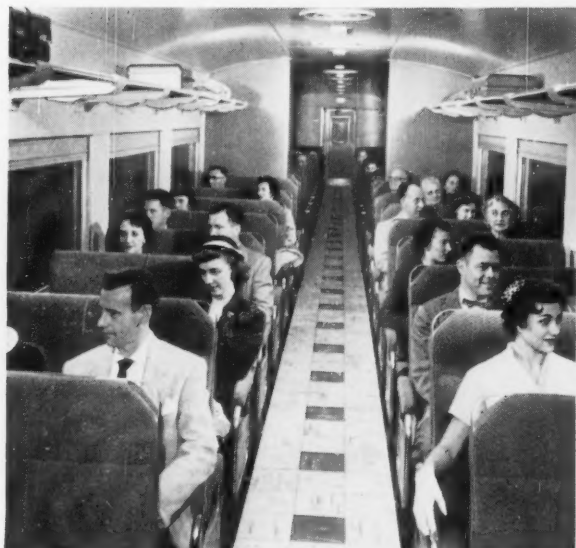


Laboratory Furniture is the newest addition to the TOLCO line of fine school equipment. Your Chemistry, Physics, Biology or General Science laboratories can now be equipped with Tolco furniture. You can save the expense of custom engineering and factory installation charges. It will pay you and your school to investigate.

WRITE FOR INFORMATION

THE TOLERTON COMPANY
265 N. FREEDOM AVENUE ALLIANCE, OHIO

This easy-to-care-for flooring saves up to 50% on maintenance costs!



Heavy traffic in this Budd Company R. D. C. diesel-powered passenger car has little effect on the durable J-M Terraflex floor. A quick damp mopping will restore it to its first-day color beauty.



Terraflex is especially serviceable in hospitals. Commonly used mild acids and disinfectants do not affect it . . . its nonporous surface assures a high degree of sanitation with a minimum of care.

Johns-Manville **TERRAFLEX** Vinyl Asbestos tile flooring . . . beautiful, colorful, incredibly durable!

ACTUAL ON-THE-JOB FIGURES show that Johns-Manville Terraflex® floor maintenance expense is reduced as much as 50%, when compared to the next most economically maintained resilient type flooring.

A quick damp mopping usually keeps Terraflex clean and bright . . . its nonporous surface requires no hard scrubbing . . . frequent waxing is eliminated. Despite heavy traffic service . . . spilled liquids and foods . . . abusive treatment,

Terraflex retains its sparkling, new appearance.

J-M Terraflex vinyl asbestos tile, available in 17 attractive marbled colors, is the ideal flooring for restaurants, public areas, schools, hospitals . . . wherever reliable floor service, long-wearing beauty and maintenance economy must be combined.

For complete information about Terraflex vinyl asbestos floor tile, write Johns-Manville, Box 158, New York 16, N. Y.

See "MEET THE PRESS" on NBC-TV, sponsored on alternate Sundays by Johns-Manville

Check these special TERRAFLEX advantages



Made of vinyl and asbestos, Terraflex will outwear any other type of resilient flooring of equal thickness.



Dirt can't penetrate Terraflex's nonporous surface. A swish of a damp mop keeps it shining bright.



Terraflex defies kitchen oils and greases . . . strong soaps will not dull its lustre.

Easy to Clean



Terraflex comes in 17 marbled colors that go all the way through the tile—won't wear off or wash out.

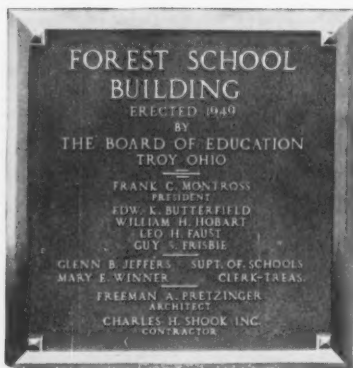


Terraflex is flexible, provides comfort and quiet underfoot . . . resists indentation.



Johns-Manville

What's New ...



GENUINE BRONZE

MEMORIALS • PORTRAIT TABLETS
HONOR ROLLS • DONOR PLATES

ORNAMENTAL LIGHTING FIXTURES

in Wrought Iron, Bronze and
Aluminum produced to order.

Illustrated Catalogs &
Estimates sent on request.



The beautiful Style 10 Everett is designed for long, trouble-free service. Full-cast plate, double veneered case, full-size action. Unexcelled tone provided by 44-inch height. Cost is amazingly low. Mail coupon for factual book and list of hundreds of prominent users.



Everett Piano Company
Division of Meridan Corp.
South Haven 6, Michigan

Please send free copy of "Report 10."

NAME _____
ADDRESS _____
CITY _____ STATE _____

• The 50th Anniversary Catalog of South Bend Lathe Works, South Bend 22, Ind., is an 80-page booklet that contains information on many new and improved products as well as on the entire line of South Bend precision engine lathes, tool-room lathes, turret lathes, shapers, pedestal grinders and drill presses. Machines are illustrated and fully described and specifications given include capacities, floor space requirements and shipping weights.

For more details circle #289 on mailing card.

• A new bulletin on Spencer Commercial Portable Vacuum Cleaners is being offered by The Spencer Turbine Co., Hartford, Conn. Performance information and complete specifications on models ranging in power from 1/2 through 1 h.p. for either dry or wet pickup are given in the bulletin which discusses special features of the various machines.

For more details circle #290 on mailing card.

• The new 1956-1957 catalog of 16 mm sound motion pictures for educational use is now available from Coronet Films, 65 E. South Water St., Chicago 1. 668 teaching films are described in the 96-page catalog which is printed in four colors. Listed in sequence from films for kindergarten and primary grades through intermediate grades and high school, the catalog gives a brief description and length of each subject, subject areas and grade levels in which each film may be used most effectively and identification of the educational collaborator. The new catalog is carefully indexed for quick reference.

For more details circle #291 on mailing card.

Film Releases

"Putting Animals in Groups," 16 mm sound, color, non-technical introduction to the classification of animals by their structure. International Film Bureau Inc., 57 E. Jackson Blvd., Chicago 4.

For more details circle #292 on mailing card.

"What's Your Driver Eye-Q," motion picture driving quiz consisting of 15 hazardous highway problems photographed through windshield of moving car. Action is stopped at critical point for student to select correct driving maneuver with the correct answer and detailed explanation given in a 36-page Instructor's Guide. Aetna Life Affiliated Companies, Public Education Dept., Hartford, Conn.

For more details circle #293 on mailing card.

"Using and Understanding Numbers—Decimals and Measurements," seven filmstrips in color for sixth, seventh and eighth grades. "Beginning Wrestling," five filmstrips with student's handbook and instructor's guide. "To Everything A Season," filmstrip story of the seasons, narrated by Fran Allison. Society for Visual Education, 1345 Diversey Pkwy., Chicago 14.

For more details circle #294 on mailing card.

Winding up current affairs filmstrip series, "America's Power Resources" and "Presidential Conventions and Candidates," 35 mm, black and white, with discussion manual. Office of Educational Activities, The New York Times, Times Square, New York 36.

For more details circle #295 on mailing card.

"Early Handling of Spinal Injuries," 16 mm sound, black and white, in Accidents Don't Happen—they are Caused series, shows on-the-spot first aid when back injuries occur. United World Films, Inc., Government Film Dept., 1445 Park Ave., New York 29.

For more details circle #296 on mailing card.

"Schools for Tomorrow," 16 mm sound, color or black and white, tells how one community used citizens' advisory groups in planning school buildings to best meet needs of the community. Wayne University, Audio-Visual Materials Consultation Bureau, Detroit 1, Mich.

For more details circle #297 on mailing card.

"How to Succeed in School," dealing with study skills, and "Industrial Arts: Wood Finishing," for junior-senior high schools. "American Leaders" filmstrip series, visualized biographies of Jane Addams, Susan B. Anthony, Benjamin Franklin, Thomas Jefferson, Horace Mann and Roger Williams. Young America Films, Inc., 18 E. 41st St., New York 17.

For more details circle #298 on mailing card.

Suppliers' News

Sherman J. Sexton, president and chairman of the board of John Sexton & Company, wholesale and manufacturing institutional grocers, died suddenly at his home in Chicago on March 13 at the age of 63. Mr. Sexton was well known in the institutional field, having assumed the presidency of his firm in 1926. He built it from a small but successful business which was started by his father in 1883, to an international operation. He was active in civic and philanthropic organizations and in the Catholic Charities of Chicago.

Smith System Manufacturing Co. is the new name of the firm formerly known as Smith System Heating Co., 212 Ontario St. S. E., Minneapolis 14, Minn. Originally organized to manufacture school room heaters and furnaces, the company has branched out to include specialty metal furniture and equipment for schools and other institutions. The new name is more indicative of the broader scope of the company's present activities.

Wayne Works, Inc., Richmond, Ind., manufacturer of school bus bodies, announces the purchase of the A. J. Miller Company, Bellefontaine, Ohio, producer of ambulances.

PRODU

Inde

USE THESE CARDS

(We pay the postage)

Key

- 242 Drinking Fountain
Bradley Washfountain Co.
- 243 Mobile Piano
Everett Piano Co.
- 244 Classroom Wardrobe
Brunswick-Balke-Collender Co.
- 245 Kindergarten Pads in Color
Petersen Gym Mats
- 246 Super-10 Sharpener
Apsco Products Inc.
- 247 No. 900 Classroom Desk
Irwin Seating Co.
- 248 "Space-Spanner" Kit
Allied Radio Corp.
- 249 Food Disposer
Toledo Scale Co.
- 250 Auditorium Chairs
American Seating Co.
- 251 Super Hill-Sweep
Hillyard Chemical Co.
- 252 Dispenser for Pepsi
S & S Products, Inc.
- 253 Tube-Line Railings
Blumcraft of Pittsburgh
- 254 Electric Awning Window
Gate City Sash & Door Co.
- 255 Telescoping Bleacher
Safway Steel Products, Inc.
- 256 Rolcut Cutting Board
Spin-a-test Co.
- 257 Adjustable Metal Stool
Adjusto Equipment Co.
- 258 Drinking Fountains
American Radiator & Standard
Sanitary Corp.
- 259 Magnetite, Series F
Electronics Corporation of America
- 260 TDC-Robomatic
Bell & Howell Co.



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May, 1956

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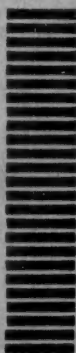
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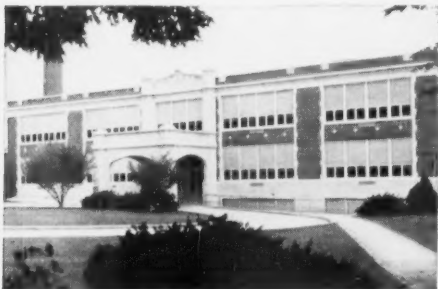
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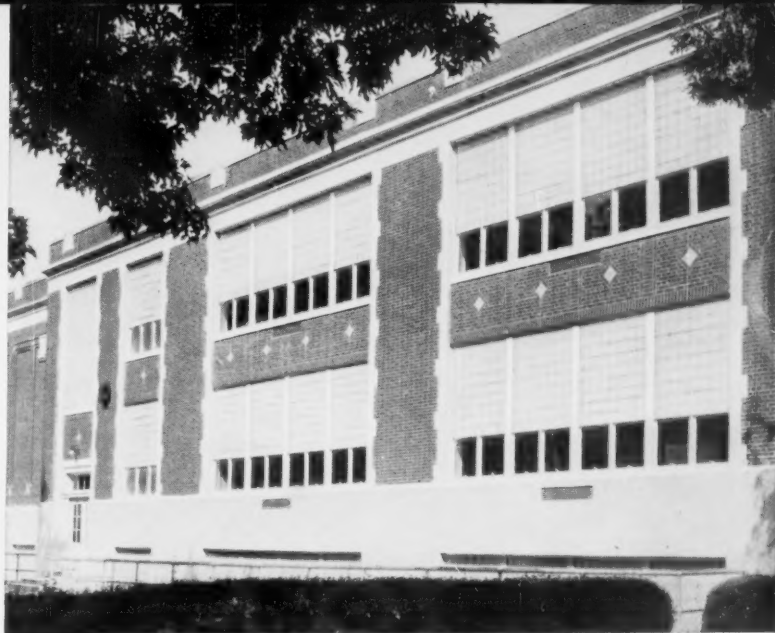
BEFORE

Worn sash let in wintry blasts. Teachers had to continually adjust shades to cut glare. Natural light in rooms was cut and the school presented a patchwork appearance from unevenly adjusted shades.



AFTER

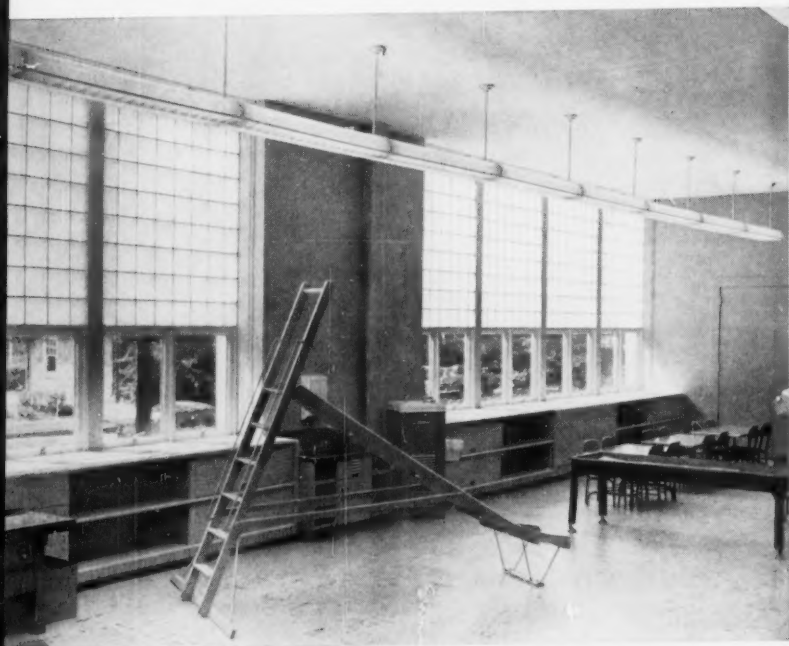
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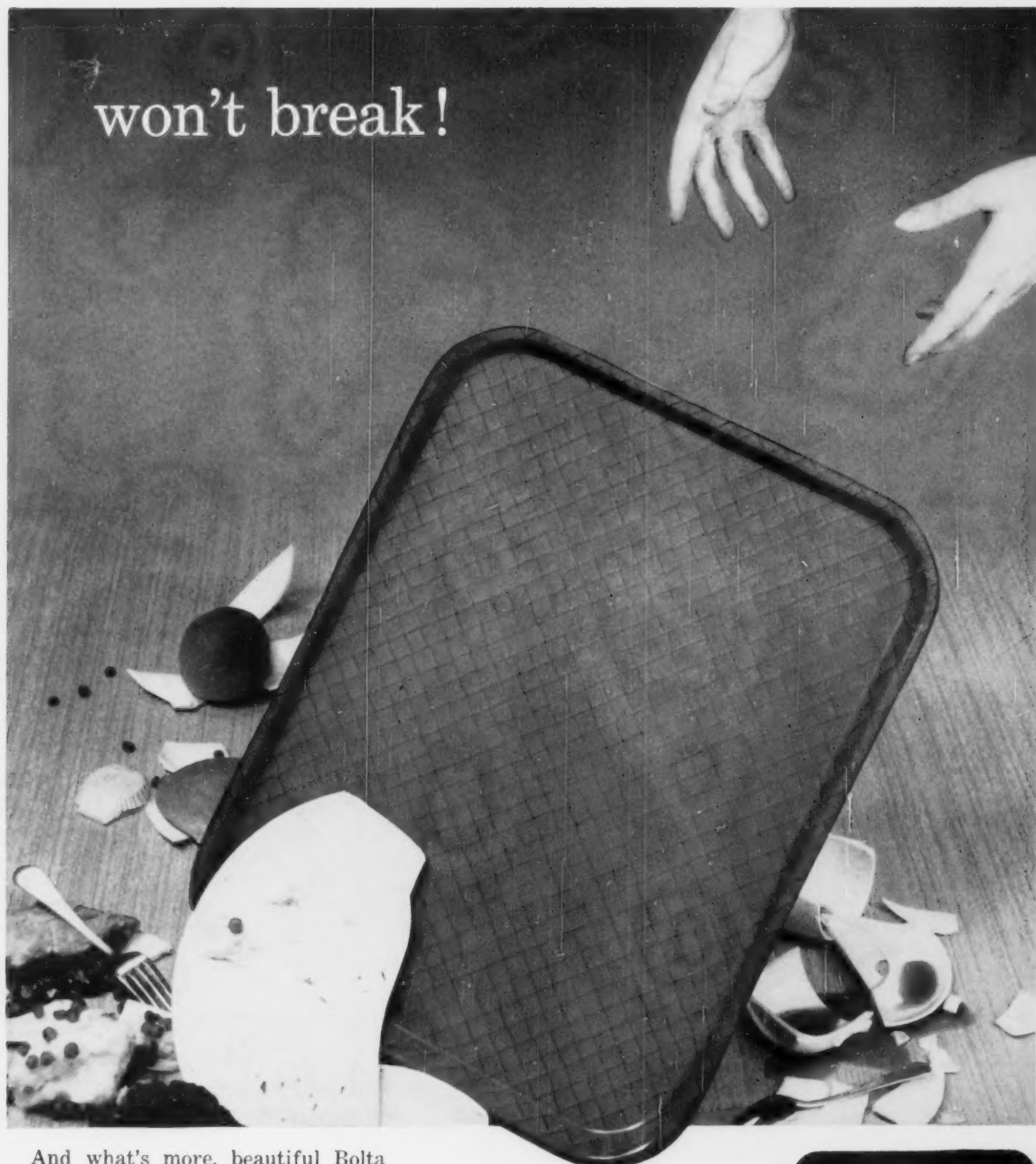


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